This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

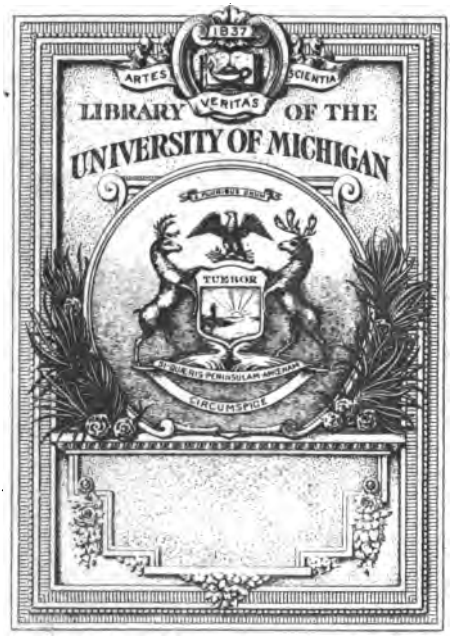
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



THE GIFT OF
M. E. Wead

HG
4910
.B115
1913

Business Barometers

used in the

Accumulation of Money

A Text Book on Applied Economics
for Merchants, Bankers
and Investors

213.

By
Roger W. Babson

Vice-President of the
Gloucester (Mass.) Safe Deposit and Trust Company

(SIXTH EDITION)

Issued January, 1913

(1912 annual figures are in some cases estimated)

Published by
BABSON'S STATISTICAL ORGANIZATION
(Incorporated)
Wellesley Hills, Mass.
U. S. A.

First Edition Copyrighted 1909
Second Edition Copyrighted 1910
Third Edition Copyrighted 1910
Fourth Edition Copyrighted 1911
Fifth Edition Copyrighted 1912
Sixth Edition Copyrighted 1913
by
Roger W. Babson

Gift
M.E. Ward
9-8-28

© 9-11-28 W.A.

Dedicated

to

GEORGE FILMORE SWAIN

Professor of Civil Engineering
Harvard University

"People will endeavor to forecast the future and make agreements according to their prophecy. Speculation of this kind by competent men is the self-adjustment of society to the probability."—*Judge Holmes in a United States Supreme Court decision.*

"I hold that a man who is long headed, who foresees and judges accurately, has an advantage over his neighbor, and it is not accounted immoral for him to use that advantage, because he is individually better fitted for the business; and it inheres in him by a law of nature, that he has a right to the whole of himself legitimately applied. If one man, or twenty men, looking at the state of the nation here, at the crops, at the possible contingencies and risks of climate, at the conditions of Europe; in other words, taking all the elements that belong to the world, into consideration, are sagacious enough to prophesy the best of action, I don't see why it is not legitimate."

HENRY WARD BEECHER.

TABLE OF CONTENTS

Page

CHAPTER I.

Two Classes of Statistics 13

CHAPTER II.

Range of Stock Market Since 1860, Showing the Possibilities of Profit to an Investor 30

CHAPTER III.

Range of Commodity Market Since 1860, Showing the Possibilities of Profit to a Merchant 80

CHAPTER IV.

The Theory of Fundamental Statistics 102

CHAPTER V.

Conditions and Events Since 1860 125

CHAPTER VI.

Subjects Relating Especially to Mercantile Conditions 196

CHAPTER VII.

Subjects Relating Especially to Monetary Conditions . 235

CHAPTER VIII.

Subjects Relating Especially to Investment Conditions 340

CHAPTER IX.

A Talk on Coppers 391

CHARTS.

1. Chart Showing the Range of the Stock Market Since 1874 30
2. Chart Showing the Range of the Commodity Market Since 1860 80
3. Composite Chart Based on Twelve Leading Subjects 102
4. Chart of Course of Money Following Four Great Panics 258
5. Course of Stock Market in Four Panics 282

FOREWORD

"A study of past disturbances leads to the conviction that no severe depression has occurred which was not preceded by loud warnings. These warnings ought not to pass unheeded, and in order to recognize them promptly it is necessary that accurate statistics be furnished. Much improvement has been accomplished in the last few years, though it is to be regretted that so much of our statistical information is fragmentary or inaccurate. Official and private publications furnish much valuable information. They include voluminous figures of deposits and loans of banks, movement of specie, exports and imports, railway earnings, wholesale prices, and the condition and probable yield of crops. A vital defect in many of them is the omission to give, for purposes of comparison, similar figures for previous months and years. Another defect is the absence of uniformity in the methods and classification employed. These comparative statistics would afford a means of determining the trend of events, and give warning when prices are unnaturally high or any branch of business is overdone. It is also noteworthy that we do not sufficiently consider statistics relating to the course of affairs in foreign countries, the influence of which upon our own condition is of the utmost importance, by reason of the enlargement of our trade and the closer international relations of modern commerce. Other statistics, which are inadequate or lacking and which would be of great value, are those pertaining to the employment

of labor, capital invested in new enterprises, amounts expended in new construction, volume of production in the various kinds of manufactures, and statistics of state banks and savings institutions similar to those pertaining to national banks. After making due allowance for the insufficiency of statistics, it must be said that the failure to pay sufficient attention to those already available is equally to be regretted."

The above was written in 1902 by Hon. Theodore E. Burton, U. S. Senator from Ohio, and is very interesting as a matter of prophesy. The "vital defects" mentioned have, however, now been overcome, and the office of the author of this book has obtained and is now able to furnish regularly the identical figures which Senator Burton then so much desired.

PREFACE

(Fundamental Principles which readers of this book should always keep in mind.)

NEITHER this book nor any other can aid a banker, merchant, or investor to become rich *within a short time.* Nobody knows nor *can know* what conditions or prices are to exist within a few weeks, or even months, and 95% of the men who endeavor to take advantage of these monthly movements — or even who worry about them — never make much headway.

Great fortunes which have been created by bankers, merchants, and investors are the result of ignoring these monthly fluctuations in commodity and security prices, and of striving to anticipate and profit by the major movements coming every few years. *These major movements can be foretold* if one will spend the necessary time and money in studying fundamental conditions. *Therefore a fortune is within the grasp of every reader of this book who has and uses the necessary figures.* There are, however, two requisites:

1. One must develop self-control, both to refrain from attempting to profit by the monthly fluctuations, which 95% of the people endeavor to follow, and to act quickly and take advantage of the major movements, which 95% of the people fail to profit by, either because they are infatuated with prosperity or scared by panic or depression.

2. One must develop patience, and remember that it takes years to build up a fortune in this

way, that it is an especially slow process at first, so that what we spend for obtaining the data the first few years may seem large during these early years. The expense, however, is infinitesimal compared with the value. In truth, it is due to the fact that most people ignore these figures, that 90% of our business men are said to "fail."

Some ask: Are not students of fundamental conditions working to their own disadvantage in urging others to unite in this work? My answer is "*Theoretically* — yes." On the other hand, every honest preacher, physician, lawyer, teacher, judge and soldier who is truly serving his function in the community must strive to eliminate the trouble, upon the existence of which he is dependent for a livelihood. But, until the world no longer needs preachers, physicians, lawyers, judges, and soldiers, there will be periods of prosperity and depression when commodities and securities will rise and decline in price, and *we who study fundamental conditions and act in accordance with what they teach*, both perform a distinct service to our country and slowly but surely create for our institutions and ourselves huge fortunes.

The writer of this book wishes to acknowledge the aid which he has received from many friends in this country and abroad. He wishes also to thank his efficient corps of assistants who have aided greatly in the compilation, and commends the various books, papers and periodicals which he has quoted from or used in other ways.

He also wishes again to thank his many friends in the various stock exchange firms, bond houses, and banks who have been patient during the ex-

perimental and formulative stages of this work. These friends have not only recognized the difficulties under which the work has been performed, but have always aided greatly by criticisms and suggestions. May the writer never abuse this friendship!

R. W. B.

Wellesley Hills, Mass., January, 1913.

CHAPTER I

TWO CLASSES OF STATISTICS

STATISTICS are divided into two classes, viz.: Comparative Statistics and Fundamental Statistics; and the following gives a short description of these two classes:

(1) Comparative Statistics

So far as the merchant is concerned, comparative statistics relate to the weight, quality, age, and method of manufacture of the merchandise in which he deals, together with such "trade figures" as are published in the trade journals.

From the investor's point of view, comparative statistics include all particulars concerning the bonded debt, the earnings, and the general physical and financial condition of properties. Such statistics are very necessary to bankers and investors for comparing similar securities of different companies, or different securities of the same company. If such data are always up to date, such comparative statistics are very valuable for enabling one to select safe securities, either for permanent investment or for buying and selling again. As the largest and most successful stock exchange brokers, bond houses, and mercantile firms are already well supplied with comparative statistics, and, so far as they are useful, are obtaining excellent results from them,

we shall not here discuss details concerning this class. It should be clearly understood however, that such statistics are worthless for determining the *general course* of the entire market.

Comparative statistics determine only actual values, enabling one to select safe securities or good merchandise, or to select the better of two or more companies' securities or grades of merchandise. With the general market conditions remaining fixed, comparative statistics might be used for forecasting a rise or a decline; but the general market is so seldom stable, that comparative statistics cannot be depended upon to serve this purpose. It is this fact, that they are inadequate for analyzing general conditions, that has brought comparative statistics into ill repute. The *market* value of securities or merchandise may continually decline, and the *actual* value of the same increase, or vice versa.

Whoever bases either purchases or sales upon earnings, physical conditions, or other comparative statistics *with the idea of selling at a profit*, will surely lose money. Note the phrase, "With the idea of selling at a profit." Such statistics may be used for selecting a *safe* investment or *good* merchandise, such as one may desire to hold permanently or possibly for a "long pull"; but they are absolutely worthless for "short turns." It is because this fact is not being recognized by many firms, content with accumulating only comparative statistics, that even with their elaborate statistical departments they are often on the losing side. In

short, comparative statistics treat only of surface conditions.

(2) Fundamental Statistics

Fundamental statistics relate to *underlying* conditions of the country and make it possible to forecast demand, supply, money conditions, etc. Fundamental statistics, although now used by only the most careful investors and merchants, are by far the most necessary and profitable.

It is the purpose of this book to show the importance of considering underlying and fundamental conditions before buying or selling securities or merchandise.

All financial history has consisted of distinct cycles, and, although of different durations, each cycle has consisted of four distinct periods, namely:

1. A Period of Prosperity
2. A Period of Decline
3. A Period of Depression
4. A Period of Improvement

Moreover, the laws of nature, commerce, and industry determine that these cycles shall always consist of four distinct periods. The idea that reckless prosperity can ever become permanent and will not be followed by a business depression, or the idea that there can be an unlimited period of depression without succeeding general activity and high market prices, shows both ignorance of economics and utter inexperience in the business world.

It must be remembered that there are *major* cycles

of about twenty years' duration, and also minor cycles of about five years' duration.

Theoretically, there should be a state where everybody is prosperous and nobody overtrades, where the cost of living is reasonable, and the wage-earner has a margin to save for old age or establish a higher standard of comfort. Yet it is true that we have never so far seen a condition so equable.

The record of crises and booms can be carried back beyond the history of this country, and we can start from the opening years of the eighteenth century, when William of Orange was on the English throne. We can trace therefrom a commercial cycle once in five to twenty years, and we can carry it into the last century with conditions exactly reflected on this side of the Atlantic. A condition of equilibrium is apparently the most difficult of all for the world's trade to maintain.

"Business may be quietly good, but that ambition to which we probably owe also the greater part of the world's progress insists upon forcing it beyond reasonable capacity. The result is always the same. The result of years of saving is over-confidence, inflation, waste, conversion of floating wealth into fixed wealth, and, finally, collapse and panic. Here is the plain evidence of two hundred years, and it may be assumed at no risk that it is the evidence of all commercial systems. Joseph with his seven fat years and his seven lean years expressed nothing more.

"What is not so readily realized is that a panic is followed by rapid recovery in stock prices, and

one slower but still relatively quick in general business. This again is followed by an arrest in business, where, contrary to assumptions just as hasty and ill balanced as those which caused the bear attitude on the panic break, boom conditions are not immediately restored, nor does anything of the kind develop within a year or so after the crisis. The first recovery runs too far and has always run too far. What follows is, not collapse, but dullness. It becomes imperative to make real savings in order to build up for the next boom in business."

A list of about twenty-five subjects about which merchants and investors systematically collect, analyze, and index statistics, is given on the following page, and for convenience they are combined under twelve headings, which headings are herewith described in detail. Later in Chapters VI, VII, and VIII many of these twenty-five subjects are described in detail. These are the subjects studied by the oldest, richest, and most conservative financial and mercantile houses of the world for determining which of the above-mentioned periods the country is experiencing or is about to enter *at any given time*. The use of fundamental statistics eliminates much guessing and uncertainty concerning mercantile or stock market movements.

The only requirement is to collect, tabulate, and study the weekly and monthly figures as they are received. These plainly show whether the general tendency of any market is upward or downward, and whether it is the time to buy or sell, or to do neither.

As above stated, these fundamental statistics are even more important than comparative statistics. Not only are the latter of little value, unless supplemented by these fundamental statistics, but experience has shown that such investors as have confined their operations to standard securities, and such merchants as have bought standard goods, have made fortunes for themselves and their customers by a study of these fundamental statistics exclusively.

The twelve headings and the subjects included as above mentioned are as follows:

I. *Building and Real Estate:* Including all New Building and Fire Losses.

II. *Bank Clearings:* Total Bank Clearings; Bank Clearings excluding New York.

III. *Business Failures:* Failures, by number, amount, and percentage.

IV. *Labor Conditions:* Immigration Figures.

V. *Money Conditions:* Money in Circulation; Comptroller's Reports; Loans of the Banks; Cash held by the Banks; Deposits of Banks; Surplus Reserve of Banks.

VI. *Foreign Trade:* Imports; Exports; Balance of Trade.

VII. *Gold Movements:* Gold Exports and Imports; Domestic and Foreign Exchange, and Money Rates.

VIII. *Commodity Prices:* Production of Gold; Commodity Prices.

IX. *Investment Market:* Stock Exchange Transactions; New Securities.

X. *Condition of Crops:* Crop Conditions and other Commodity Production.

XI. *Railroad Earnings:* Gross and Net Earnings; Idle Car Figures; Miscellaneous.

XII. *Social Conditions:* Political Factors. These twelve divisions have by custom come to be known among merchants as the Twelve Barometers of Trade and may be briefly described as follows:

I. The number of miles of *new railroad constructed*, and especially figures on *Building Statistics*, give a clew to what new construction work is going on throughout the country. The exactness with which business conditions could have been foretold in the past by such figures is truly marvellous. It may also be stated that iron is one of the first commodities to fall in price and one of the first to rise; therefore all merchants watch the price of iron.

II. *Bank Clearings* are an extremely good barometer of present conditions and are watched with keen interest by all successful merchants and manufacturers. Many large corporations each week compare the changes in their total sales with the changes in the total bank clearings of the country. If they find that bank clearings continually show an increase, while their sales remain fixed, they immediately endeavor to ascertain the reason therefor. Moreover, some firms divide the country into sections and compare by sections their sales with the bank clearings for said sections, thus having a check on the work of each individual sales office.

III. *Failures* both in number and amount are especially good barometers of the conditions of trade. By ascertaining each month the average number of concerns in active business and the number that have failed, the percentage of failures may be readily determined. Contrary to the ordinary impression, it is too few failures which foretell disaster and panic.

IV. Figures on *Immigration* are carefully studied by manufacturers as indicative of the conditions of the labor market. The arrival of thousands of immigrants at Ellis Island indicates good surface conditions, with high prices for labor; but too large immigration figures foretell a change in conditions, followed by a period of depression. On the other hand, when large numbers of steerage passengers are leaving the country and the incoming steerage is reduced, business is in a state of depression; and only when the tide turns and immigrants again begin to arrive, is it a sign that conditions are again improving.

V. *Money* is the basis of all trade and is therefore probably the most sensitive of all barometers. Money is the representative in value of all things traded in, and the scarcity of it seriously hampers the manufacturer and the merchant. Low money rates usually indicate poor present conditions tending toward improved business; while high rates usually signify very prosperous present conditions, but often foretell a coming panic. The active merchant, however, not only studies the money rates of this country, but also the average of the bank

rates of England, France, and Germany. Each Thursday the Bank of England publishes a statement and makes an announcement as to the rates of discount at which it will handle first-class paper until further notice. This practically fixes the discount rate throughout Great Britain, and a continued rise or fall of the rate in England is sure to be followed eventually by a similar movement in this country.

VI. Figures on *Foreign Trade* are also of great value. The foreign trade of the country bears the same relation to the nation as a whole, as the income and expense of an individual bear to the financial condition of the said individual. A man who for any length of time spends more money than he receives is sure eventually to have trouble, and it is the same with a nation. Moreover, as the financial prosperity of the individual is almost in direct proportion to his net income, so the prosperity of a nation very largely depends upon the volume of its foreign trade.

VII. Monthly *Gold Movements* are also important for study in forecasting money rates, although, like idle car figures, they are of little value after the actual annual figures are published.

VIII. The subject of *Commodity Prices* is very important. The amount of money required to carry on a definite volume of business becomes very much greater as business increases. For this reason bankers very carefully watch commodity prices, knowing that high money rates invariably follow a marked increase in commodity prices.

IX. The transactions and *Prices of Stocks* on the New York Stock Exchange are also interesting to merchants as well as to investors. The way money is made on the New York Stock Exchange is by *anticipating* price changes. The leading operators have statisticians continually studying fundamental conditions in order to forecast future conditions, and base their purchases and sales on the information obtained. Therefore a slowly sagging market usually means that the ablest speculators expect in the near future a period of depression in general business; and a slowly rising market usually means that prosperous business conditions may be expected, *unless the decline or rise is artificial and caused by manipulation.* In fact, if it were not for manipulation, merchants could almost rely on the stock market alone as a barometer, and let these large market operators stand the expense of collecting the data necessary for determining fundamental conditions. Unfortunately, however, it is impossible by studying the stock market alone to distinguish between artificial movements and natural movements; therefore, although bankers and merchants may watch the stock market as *one* of the barometers, they should give to it only a fair and proportional amount of weight.

X. Of all statistics published by the government the most important to the merchant are *Crop Reports.* Most of the government figures refer to what has happened in the past, and many of these figures are published a year or more after the events have happened. In the case of the

crops, however, the government actually forecasts. Therefore all crop statistics are especially valuable to manufacturers and merchants.

The crops are the mainstay of America and approximately one half of our population is dependent upon agriculture. Crop conditions form the basis of James J. Hill's predictions and business ventures, and Mr. Hill, by the way, is a great student of fundamental statistics. The principal crops, grain and cotton, have a tremendous influence upon our wealth. Many industries and mercantile firms are absolutely dependent on the crops, and commodity prices are always more or less dependent thereon. The grain reports and cotton reports issued by the government are watched with great interest, and manufacturers and merchants even watch the weather reports throughout the West, the progress of the "green-bug," the condition of the crops in the Argentine Republic, Russia, and other countries. Abnormal crops are usually followed by a year of uncertain conditions.

XI. *Railroad Earnings* are extremely instructive and are used by some merchants in preference to many of the above subjects. Practically all manufactured goods and even supplies in the local retail stores are shipped by railroads; therefore, a weekly record of freight which the railroads are carrying serves as a barometer of the business of all the farmers, manufacturers, and merchants of the country. Moreover, the steel companies, the car and locomotive builders, the coal industry, and one

hundred other industries are directly dependent on the railroads for their prosperity. Therefore all merchants watch railroad earnings and new mileage constructed, and reduce or increase their stock of goods in accordance with what these reports show.

XII. Regarding *Politics:* trade is always dependent upon the wise conduct of our national government. War clouds, even though at first not involving our nation, strongly affect all commodity and investment prices. Of course all are not affected in the same way, as a war scare increases the prices of some commodities and reduces the prices of others, but all are affected in some way and to some extent. Even the President's message and especially tariff discussion and the approach of a presidential election greatly affect prices and trade.

To conclude, each of these twelve subjects is intimately bound up with what are known as "swings," during which all prices change from "high" to "low" or the reverse. As heretofore stated, all financial and commercial trade during the past two hundred years has been divided into distinct cycles, and each cycle consists of four periods: a period of prosperity, a period of decline, a period of depression, and a period of improvement. Each period is accompanied by distinct changes in the prices of stocks, labor, and commodities, and by comparison with similar periods in previous cycles, it is possible with a degree of certainty to determine at about what period in one of these "swings" we happen to be. If the pendulum swings out over the perpendicular, we are sure that it must swing back

of the center as far as it swung forward, *because action and reaction are always equal.*

No country, however, can be prosperous unless it is progressive. No nation can stand still; it must go either forward or backward. The normal demands of our country for new construction must show an increase each year to have conditions even remain constant. There must be a distinct increase in order to keep the vast number of our new citizens busy. Therefore, in comparing the present with the past, a similar figure does not necessarily mean better conditions, but in many instances may mean an actual falling off. This is very important and must be remembered when estimating an area to use for comparison purposes in connection with the Composite Plot which will be described later.*

Conclusion

The amount of money which can be made by the study of such statistics is limited only by the original capital and the number of years the study is continued. Comparative statistics treat of comparative conditions and are used for selecting securities and commodities which are absolutely safe

*Some firms when interpreting figures on each of the various subjects for surface conditions, prefer each month to determine what the proper average figure should be for each of these subjects and note the relation between the actual figures for surface conditions and these average figures. The average figure on any one subject is obtained by plotting the yearly figures on that subject for a period of ten or twenty years and by drawing on that plot a line showing the average trend for the entire period. Firms using this system obtain the average figure for any future time, assuming that the general direction of this average line will continue the same. Moreover, in the case of some subjects, it is often clearer to plot the *relation of present figures to a ten-year average* rather than the actual figures. This is especially true with plotting commodity prices and other figures which show only a slight variation with seasonal changes. The writer, however, believes in this latter method only as a check upon, and not as a substitute for, the Composite Plot

and which have the greatest prospect of increase in market value under fixed market conditions. Fundamental statistics treat of underlying conditions and are employed for determining these general market conditions and whether or not it is wise to purchase or to sell, or to do neither. Investors use this data in order to purchase securities only when they are low, holding them for from two to four years until they are high, and then selling and depositing in a bank the proceeds received therefrom. After said sale they leave the money on deposit for from two to four years,* until the same securities again sell low, when they withdraw the money and again purchase the same or other high-grade securities.

Many of such investors triple their money every few years, with practically no risk and with very little trouble. By a study of these fundamental statistics some individuals, with little risk and without any marginal purchases, but by purchasing outright high-grade, dividend-paying securities, have turned an investment of $5,000 into $200,000 in about twenty years. When one realizes the meaning of this,—that an investment of $20,000 grows to $1,000,000 within twenty years,—the value of fundamental statistics is apparent. If one is not strictly an investor, and willing under a broker's guidance to take advantage also of certain intermediate movements, which come once or twice a year, possibly greater results are sometimes obtained; but of course this involves risk.

*If this withdrawal at the time of a panic meant the hoarding of money or taking the money from circulation, we should not recommend any such course. Instead, the money is only withdrawn from one bank and deposited in another, probably being used to liquidate some loan.

Again, many brokers urge customers to take advantage of declines; recommending "short selling" in periods of great activity and prosperity and also the purchase of securities on margin during periods of depression. Such advice is to be expected from a broker; but with short selling or margin purchases, there is connected another element of risk, and the investor then becomes a speculator. If margin purchases are undertaken, the margins should be large, — from thirty to forty per cent. Moreover, instead of selling short, the investors may buy "puts" for six months, or, if possible, for longer time, in the London market. These "puts" allow the holder to make nearly as much profit as if he had sold the stock short. Any loss he may sustain is limited to the price for the "put," say from $100 upward for one hundred shares of stock.

Of course, there may be no real objection to buying on large margins; but the point which this book would emphasize is that: *An investment of a thousand dollars can be multiplied to an investment of several hundred thousand dollars in about twenty years with but very little risk and without selling short or purchasing on margin.* The only requisite is a constant study of comparative and fundamental statistics, and sufficient self-control to act only in accordance with what these statistics clearly indicate, refusing to listen to either the optimism or the pessimism supplied by the daily papers and by the many individuals who are always giving free advice.

The above principles apply to bonds as truly as to

stocks, and should be studied by the investors who purchase only bonds, as well as those who purchase stocks. Although bonds do not fluctuate as widely as stocks, and for this reason do not present as great an opportunity for profit, yet their *minimum* interest yield is absolutely fixed, which is not true of even the most conservative stocks. Bonds are especially recommended to persons dependent upon the income derived from their investments; and the writer is inclined to advise that all persons should always have a portion of their principal on deposit in a bank, or in high-grade bonds, short-term notes, or commercial paper.

Merchants who never buy or sell securities use this data with equal profit. Fundamental statistics clearly show the merchant when to buy and increase his stock of goods, and when to cut prices and reduce his stock. They also enable the merchant to forecast money conditions in order that he may intelligently decide whether to borrow the money necessary to allow customers further credit, or to reduce his loans and the indebtedness of his customers. Moreover, at all times these figures show the merchant the conditions of business throughout the country, so that he always knows whether the growth or contraction of his business is proportional to that of his competitors.

Upon careful thought it must be admitted that the fortunes of American merchant princes must have been created by a knowledge of these facts, rather than simply by selling to the trade at a nominal profit. Therefore, not only does the proper

use of fundamental statistics insure a merchant against losses, but their use should be almost as profitable to him as to the investor, enabling him to double and triple his capital every few years. Such ideas of the value of statistics should therefore be especially interesting to the small merchant with capital of, for instance, only $10,000. For there is no reason why, with fundamental statistics as an aid to the elimination of the bad accounts and unsold goods, his capital should not automatically increase to $250,000 within twenty years.

Not only do students of fundamental statistics make large fortunes for themselves and their followers, but such students are the very best patriots which a country can produce. The true patriot today is he who studies fundamental statistics and acts in accordance with what they teach, liquidating during a period of reckless prosperity and purchasing very heavily during days of panic and great depression. The real traitor today is he who urges on or follows the crowd during a period of prosperity and locks up his money and refuses to extend aid during the dark days when banks are failing, railroads are becoming bankrupt, and the wheels of industry are stopped. Therefore, with every additional person who unites in this work, the next period of prosperity will be so much less riotous and the next panic so much less severe.

CHAPTER II

RANGE OF THE LEADING INVESTMENT STOCKS SINCE 1860, SHOWING HOW $2,500 INVESTED IN 1861 WOULD AMOUNT TO OVER $1,000,000 IN 1913. SPECIAL TABLES ON INVESTMENT BONDS.

THE accompanying chart is designed to show the fluctuations in the leading investment stocks from 1874 to date as accurately as may be. Only the best stocks of the period are considered, and the stocks described are *as representative as possible* of the different classes of traffic and of the different sections of the country.

"Central of New Jersey" is a *minority stock*, "St. Paul" is a *speculative stock*, and "Delaware & Hudson" is a *coal stock*. The West is represented by "Great Northern," the Mississippi Valley by "Illinois Central," the South by "Louisville & Nashville," the central and Middle States by "New York Central" and "Pennsylvania." The New England States are represented by "New York, New Haven & Hartford." "Pullman" is chosen as the most conservative industrial.

Of these ten, only three were in existence and prominent in 1860. New York Central, Illinois Central and Delaware, Lackawanna & Western were active then and are leaders still.

In 1866 "Delaware & Hudson" and in 1872 "Louisville & Nashville" became active, and in 1874 "Central of New Jersey." In 1876 "Pullman" became active and in 1890 "Pennsylvania.". These

are the ten stocks used exclusively until 1900 when "Delaware, Lackawanna & Western" was, for various reasons, omitted. As "Great Northern" sold for the same price, namely 191, at about that time, that was substituted in its stead.

In other words, only good stocks and truly representative stocks have been included in the list. Stocks which have shown any abnormal rise have purposely been avoided. For this reason, stocks such as "Union Pacific," "Atchison" and "Reading" have been omitted. More industrials would have been included, if they had been in existence a longer period; but, as most of the companies have been organized only a comparatively short number of years, this was not possible. Therefore, the chart may be depended upon, absolutely, as showing the fluctuations which a conservative investor may expect.

It has also been very interesting to figure the income received upon the investment, which varied from 5% to 10%. If all "rights" were considered the average income would probably be about 10%; but in this also any possible exaggeration has been avoided. For greater exactness, since "Great Northern" gave its ore certificates, the price of these certificates has been included with the price of the stock. The complete list, as it stood at the low point in 1907 and in January of later years is as follows:—

	Div.	Low 1907	Div.	Jan. 1909	Div.	Jan. 1910	Div.	Jan. 1911
Central New Jersey	$8	144	$8	228	$8	312	$8	270
Chicago, Mil. & St. Paul	7	93	7	151	7	158	7	124
Delaware & Hudson	9	124	9	181	9	185	9	164

	Div.	Low 1907	Div.	Jan. 1909	Div.	Jan. 1910	Div.	Jan. 1911
Great Northern plus 1 Ore. Cert.	$7	144	$7	221	$8	225	$8	180
Illinois Central	7	116	7	149	7	146	7	132
Louisville & Nashville	6	85	5	126	5½	158	7	145
New York Central	6	89	5	126	5	125	6	112
N. Y., N. H. & Hartford	8	127	8	161	8	158	8	150
Pennsylvania	7	103	6	132	6	136	6	129
Pullman	8	135	8	171	8	189	8	160

	Div.	Jan. 1912	Div.	Jan. 1913	Div.	Jan. 1914	Div.	Jan. 1915
Central New Jersey	$8	$310	$8	$360				
Chicago, Mil. & St. Paul	7	110	5	113				
Delaware & Hudson	9	168	9	162				
Great Northern plus 1 Ore. Cert.	7	170	7	172				
Illinois Central	7	140	7	127				
Louisville & Nashville	7	155	7	142				
New York Central	5	107	5	109				
N. Y., N. H. & Hartford	8	137	8	128				
Pennsylvania	6	123	6	122				
Pullman	8	160	8	165				

The list includes "Central of New Jersey," and "Chicago, Milwaukee & St. Paul," in order to tabulate a minority stock and a speculative stock. As an investment, however, others may be preferable. When substituting them, some brokers recommend selecting stocks selling for about the same prices as those omitted. It should always be remembered that an investor, when buying or selling, should not study the present prices of the stocks which he intends to purchase, but rather the prices of the ten representative stocks in the list given above. This is because he should buy or sell *in accordance with general conditions*, and not be governed by the price of any stocks which he happens to hold. A diagram of some other ten stocks may be misleading and cause trouble.

The actual low and high prices of the above ten stocks from 1860 to date are given in the accom-

panying tables. The "*averages*" given at the beginning of each year previous to 1877 are averages of all the *high* and all the *low* prices, regardless of what day in the year they occurred, and therefore may be a *theoretical* rather than an *actual* figure, while quotations from the beginning of 1877 are the averages of the stocks named, all figures being taken on the same date.

1860 AVERAGE 59–93

Lackawanna ranged from 54 (Jan.) to 99 (June); Ill. Cent. 55 (Jan.) to 89 (Aug.); N. Y. Cent. 92 (Sept.) to 69 (Dec.).

1861 AVERAGE 62–84

Lackawanna ranged from 84 (Mch.) to 65 (Dec.); Ill. Cent. 88 (Jan.) to 55 (April); N. Y. Cent. 82 (Jan.) to 68 (April).

1862 AVERAGE 71–107

Lackawanna ranged from 80 (April) to 130 (Dec.); Ill. Cent. 55 (July) to 84 (Oct.); N. Y. Cent. 79 (Jan.) to 107 (Oct.).

1863 AVERAGE 106–153

Lackawanna ranged from 130 (Jan.) to 198 (Dec.); Ill. Cent. 83 (Jan.) to 126 (Aug.); N. Y. Cent. 107 (Mch.) to 140 (Sept.).

1864 AVERAGE 141–177

Lackawanna ranged from 195 (Jan.) to 265 (Sept.); Ill. Cent. 117 (Jan.) to 135 (Oct.); N. Y. Cent. 145 (Mch.) to 109 (Oct.).

1865 AVERAGE 125–158

Lackawanna ranged from 225 (Jan.) to 199 (Mch.); Ill. Cent. 92 (Mch.) to 130 (July); N. Y. Cent. 119 (Jan.) to 85 (April).

1866 AVERAGE 99–128

St. Paul ranged from 41 (Mch.) to 64 (Nov.); Del. & Hud. 132 (Mch.) to 160 (Nov.); Lackawanna 162 (Aug.) to 124 (Mch.); Ill. Cent. 131 (Jan.) to 112 (Feb.); N. Y. Cent. 86 (Feb.) to 123 (Nov.).

1867 AVERAGE 98–122

Cent. of N. J. ranged from 125 (Jan.) to 113 (Dec.); St. Paul 25 (April) to 54 (July); Del. & Hud. 139 (Jan.) to 156 (Jan.); Lackawanna 130 (July) to 109 (Oct.); Ill. Cent. 111 (Jan.) to 135 (Dec.); N. Y. Cent. 94 (Feb.) to 118 (Dec.); New Haven 114 (Jan.) to 140 (Dec.).

1868 AVERAGE 108–144

Cent. of N. J. ranged from 126 (June) to 110 (Dec.); St. Paul 46 (Feb.) to 111 (Oct.); Del. & Hud. 165 (May) to 119 (Aug.); Lackawanna 110 (Jan.) to 132 (Oct.); Ill. Cent. 130 (Jan.) to 159 (July); N. Y. Cent. 110 (April) to 159 (Dec.); New Haven 133 (Jan.) to 159 (May).

1869 AVERAGE 114–144

St. Paul ranged from 84 (Aug.) to 61 (Sept.); Del. & Hud. 134 (June) to 120 (Dec.); Lackawanna 120 (Jan.) to 104 (Nov.); Ill. Cent. 148 (May) to 130 (Dec.); N. Y. Cent. 217 (July) to 153 (Sept.); New Haven 160 (Jan.) to 120 (April).

1870 AVERAGE 102–120

St. Paul ranged from 75 (Jan.) to 52 (Dec.); Del. & Hud. 115 (Mch.) to 127 (July); Lackawanna 112 (May) to 100 (Sept.); Ill. Cent. 145 (Feb.) to 129 (July); N. Y. Cent. 86 (Jan.) to 102 (June); New Haven 134 (Jan.) to 159 (June).

1871 AVERAGE 103–117

St. Paul ranged from 48 (Jan.) to 64 (Sept.); Del. & Hud. 115 (Feb.) to 125 (Dec.); Lackawanna 102 (Feb.) to 111 (Sept.); Ill. Cent. 139 (Jan.) to 132 (Oct.); N. Y. Cent. 103 (April) to 84 (Oct.); New Haven 140 (April) to 160 (June).

1872 AVERAGE 97–110

St. Paul ranged from 64 (April) to 51 (Nov.); Del. & Hud. 124 (Jan.) to 115 (Oct.); Lackawanna 112 (Mch.) to 91 (Dec.); Ill. Cent. 140 (June) to 119 (Nov.); Louis. & Nash. 81 (Oct.) to 79 (Dec.); N. Y. Cent. 101 (April) to 89 (Nov.); New Haven 168 (June) to 138 (Dec.).

1873 AVERAGE 75–106

St. Paul ranged from 62 (April) to 21 (Nov.); Del. & Hud. 124 (Feb.) to 99 (Nov.); Lackawanna 106 (June) to 79 (Nov.); Ill. Cent. 126 (Jan.) to 90 (Nov.); Louis. & Nash. 79 (Mch.) to 50 (Dec.); N. Y. Cent. 106 (Feb.) to 77 (Nov.); New Haven 142 (Feb.) to 112 (Nov.).

1874 AVERAGE 87–100

Cent. of N. J. ranged from 98 (Jan.) to 109 (Feb.); St. Paul 49 (Jan.) to 31 (May); Del. & Hud. 121 (Jan.) to 113 (Aug.); Lackawanna 99 (Jan.) to 112

(Feb.); Ill. Cent. 108 (Feb.) to 90 (Oct.); Louis. & Nash. 53 (Jan.) to 59 (Feb.); N. Y. Cent. 105 (Mch.) to 95 (May); New Haven 122 (Jan.) to 139 (Nov.).

1875 AVERAGE 87–100

Cent. of N. J. ranged from 120 (April) to 99 (Oct.); St. Paul 40 (April) to 28 (June); Del. & Hud. 110 (Feb.) to 124 (Dec.); Lackawanna 106 (Jan.) to 123 (April); Ill. Cent. 106 (April) to 88 (Oct.); Louis. & Nash. 40 (Feb.) to 36 (April); N. Y. Cent. 100 (May) to 107 (May); New Haven 133 (Jan.) to 147 (Dec.).

1876 AVERAGE 62–100

Cent. of N. J. ranged from 109 (Feb.) to 21 (Sept.); St. Paul 46 (Feb.) to 18 (Nov.); Del. & Hud. 125 (Jan.) to 61 (Oct.); Lackawanna 120 (Jan.) to 64 (Oct.); Ill. Cent. 103 (Mch.) to 60 (Dec.); Louis. & Nash. 32 (April) to 24 (Dec.); N. Y. Cent. 117 (Feb.) to 96 (Sept.); New Haven 146 (Jan.) to 159 (Mch.); Pullman 70 (Jan.) to 85 (April).

1877 AVERAGE 54–75

Cent. of N. J. ranged from 37 (Jan.) to 6 (June); St. Paul 11 (April) to 42 (Oct.); Del. & Hud. 74 (Jan.) to 25 (June); Lackawanna 77 (Jan.) to 30 (June); Ill. Cent. 40 (April) to 79 (Oct.); Louis. & Nash. 26 (Mch.) to 41 (Dec.); N. Y. Cent. 85 (April) to 109 (Oct.); New Haven 146 (April) to 158 (Dec.); Pullman 75 (Feb.) to 71 (Mch.).

1878 AVERAGE 69–82

Cent. of N. J. ranged from 13 (Jan.) to 45 (July); St. Paul 54 (June) to 27 (Sept.); Del. & Hud. 59

(July) to 34 (Dec.); Lackawanna 61 (July) to 41 (Dec.); Ill. Cent. 72 (Feb.) to 87 (July); Louis. & Nash. 35 (Oct.) to 39 (Dec.); N. Y. Cent. 103 (Mch.) to 115 (Sept.); New Haven 153 (Jan.) to 162 (Nov.); Pullman 72 (Feb.) to 80 (July).

1879 AVERAGE 69–104

Cent. of N. J. ranged from 33 (Jan.) to 89 (Nov.); St. Paul 34 (Jan.) to 82 (Nov.); Del. & Hud. 38 (Feb.) to 89 (Nov.); Lackawanna 43 (Jan.) to 94 (Nov.); Ill. Cent. 79 (Mch.) to 100 (Dec.); Louis. & Nash. 35 (Feb.) to 89 (Dec.); N. Y. Cent. 112 (Mch.) to 139 (Nov.); New Haven 171 (June) to 154 (Nov.); Pullman 73 (Jan.) to 109 (Nov.).

1880 AVERAGE 99–123

Cent. of N. J. ranged from 90 (Mch.) to 45 (May); St. Paul 66 (May) to 114 (Dec.); Del. & Hud. 60 (May) to 92 (Dec.); Lackawanna 68 (May) to 110 (Dec.); Ill. Cent. 99 (Jan.) to 127 (Dec.); Louis. & Nash. 174 (Nov.) to 77 (Dec.); N. Y. Cent. 122 (May) to 155 (Dec.); New Haven 155 (Jan.) to 180 (Oct.); Pullman 107 (Jan.) to 146 (Jan.).

1881 AVERAGE 121–134

Cent. of N. J. ranged from 82 (Jan.) to 112 (Feb.); St. Paul 101 (Feb.) to 129 (June); Del. & Hud. 89 (Jan.) to 115 (Mch.); Lackawanna 107 (Jan.) to 131 (Mch.); Ill. Cent. 124 (Jan.) to 146 (May); Louis. & Nash. 79 (Feb.) to 110 (May); N. Y. Cent. 155 (Jan.) to 130 (Dec.); New Haven 164 (Mch.) to 190 (June); Pullman 151 (Jan.) to 120 (Dec.).

1882 AVERAGE 113–126

Cent. of N. J. ranged from 97 (Feb.) to 63 (Nov.); St. Paul 128 (Sept.) to 96 (Nov.); Del. & Hud. 102 (Mch.) to 119 (Aug.); Lackawanna 116 (April) to 150 (Sept.); Ill. Cent. 127 (Jan.) to 150 (Oct.); Louis. & Nash. 100 (Jan.) to 46 (Nov.); N. Y. Cent. 123 (May) to 138 (Aug.); New Haven 168 (Feb.) to 186 (Nov.); Pullman 145 (Jan.) to 117 (June).

1883 AVERAGE 109–119

Cent. of N. J. ranged from 68 (Jan.) to 90 (Oct.); St. Paul 108 (Jan.) to 91 (Dec.); Del. & Hud. 112 (April) to 102 (Oct.); Lackawanna 131 (April) to 111 (Oct.); Ill. Cent. 148 (June) to 124 (Aug.); Louis. & Nash. 58 (Jan.) to 40 (Aug.); N. Y. Cent. 129 (Mch.) to 111 (Dec.); New Haven 169 (Jan.) to 183 (June); Pullman 134 (June) to 112 (Dec.).

1884 AVERAGE 85–113

Cent. of N. J. ranged from 90 (Jan.) to 37 (Dec.); St. Paul 94 (Jan.) to 58 (June); Del. & Hud. 114 (Feb.) to 67 (Dec.); Lackawanna 133 (Mch.) to 86 (Dec.); Ill. Cent. 140 (Feb.) to 110 (June); Louis. & Nash. 51 (Mch.) to 22 (June); N. Y. Cent. 122 (Mch.) to 83 (Nov.); New Haven 184 (May) to 175 (July); Pullman 117 (Jan.) to 90 (May).

1885 AVERAGE 86–111

Cent. of N. J. ranged from 31 (Mch.) to 52 (Aug.); St. Paul 64 (June) to 99 (Nov.); Del. & Hud. 66 (Jan.) to 100 (Nov.); Lackawanna 82 (Jan.) to 129 (Dec.); Ill. Cent. 119 (Jan.) to 140

(Dec.); Louis. & Nash. 22 (Jan.) to 51 (Nov.); N. Y. Cent. 81 (June) to 107 (Nov.); New Haven 175 (Jan.) to 204 (Dec.); Pullman 107 (Jan.) to 137 (Nov.).

1886 AVERAGE 106–118

Cent. of N. J. ranged from 42 (Jan.) to 64 (Sept.); St. Paul 82 (May) to 96 (Dec.); Del. & Hud. 87 (Dec.) to 108 (Feb.); Lackawanna 115 (Jan.) to 144 (Dec.); Ill. Cent. 143 (Feb.) to 130 (Dec.); Louis. & Nash. 33 (May) to 69 (Dec.); N. Y. Cent. 98 (May) to 117 (Oct.); New Haven 204 (Jan.) to 223 (Nov.); Pullman 128 (May) to 147 (Oct.).

1887 AVERAGE 112–125

Cent. of N. J. ranged from 55 (Jan.) to 86 (April); St. Paul 95 (May) to 69 (Oct.); Del. & Hud. 96 (Sept.) to 106 (Nov.); Lackawanna 139 (June) to 123 (Oct.); Ill. Cent. 138 (May) to 114 (Oct.); Louis. & Nash. 70 (April) to 54 (Oct.); N. Y. Cent. 114 (May) to 101 (Oct.); New Haven 208 (Feb.) to 233 (May); Pullman 159 (May) to 136 (Nov.).

1888 AVERAGE 113–126

Cent. of N. J. ranged from 73 (April) to 95 (Dec.); St. Paul 78 (Feb.) to 59 (Dec.); Del. & Hud. 103 (Jan.) to 134 (Dec.); Lackawanna 123 (April) to 145 (Oct.); Ill. Cent. 123 (Aug.) to 113 (Dec.); Louis. & Nash. 64 (Jan.) to 50 (April); N. Y. Cent. 102 (April) to 111 (Sept.); New Haven 215 (Jan.) to 244 (Dec.); Pullman 135 (April) to 175 (Sept.).

1889 AVERAGE 123–136

Cent. of N. J. ranged from 92 (Mch.) to 131 (Oct.); St. Paul 60 (Mch.) to 75 (June); Del. & Hud. 130 (Mch.) to 156 (Sept.); Lackawanna 134 (April) to 151 (Sept.); Ill. Cent. 106 (Feb.) to 118 (Dec.); Louis. & Nash. 56 (Jan.) to 87 (Nov.); N. Y. Cent. 110 (Feb.) to 104 (July); New Haven 241 (Jan.) to 279 (Sept.); Pullman 205 (Feb.) to 171 (Mch.).

1890 AVERAGE 118–142

Cent. of N. J. ranged from 128 (May) to 92 (Nov.); St. Paul 78 (May) to 44 (Nov.); Del. & Hud. 175 (May) to 120 (Dec.); Lackawanna 149 (July) to 123 (Nov.); Ill. Cent. 120 (Jan.) to 85 (Nov.); Louis. & Nash. 92 (May) to 65 (Nov.); N. Y. Cent. 111 (June) to 95 (Dec.); New Haven 244 (Jan.) to 270 (June); Pennsylvania 113 (May) to 95 (Nov.); Pullman 222 (July) to 160 (Dec.).

1891 AVERAGE 115–128

Cent. of N. J. ranged from 122 (April) to 105 (June); St. Paul 51 (Mch.) to 82 (Dec.); Del. & Hud. 140 (Sept.) to 120 (Dec.); Lackawanna 130 (July) to 145 (Sept.); Ill. Cent. 90 (Mch.) to 109 (Dec.); Louis. & Nash. 65 (Aug.) to 83 (Dec.); N. Y. Cent. 98 (July) to 119 (Dec.); New Haven 271 (Feb.) to 224 (Nov.); Pennsylvania 99 (May) to 115 (Dec.); Pullman 196 (Jan.) to 172 (Nov.).

1892 AVERAGE 126–135

Cent. of N. J. ranged from 111 (Jan.) to 145 (Feb.); St. Paul 75 (April) to 84 (Aug.); Del. &

Hud. 122 (Jan.) to 149 (April); Lackawanna 138 (Jan.) to 167 (Feb.); Ill. Cent. 110 (Jan.) to 95 (Sept.); Louis. & Nash. 84 (Jan.) to 64 (Sept.); N. Y. Cent. 119 (Mch.) to 107 (Sept.); New Haven 224 (Jan.) to 255 (Dec.); Pennsylvania 114 (Jan.) to 106 (Nov.); Pullman 184 (Jan.) to 200 (May).

1893 AVERAGE 102–135

Cent. of N. J. 132 (Jan.) to 84 (July); St. Paul 83 (Jan.) to 46 (July); Del. & Hud. 139 (Jan.) to 102 (July); Lackawanna 127 (July) to 175 (Nov.); Ill. Cent. 104 (Jan.) to 86 (July); Louis. & Nash. 77 (Jan.) to 39 (Dec.); N. Y. Cent. 111 (Jan.) to 92 (July); New Haven 262 (Jan.) to 188 (Sept.); Pennsylvania 111 (Jan.) to 93 (Dec.); Pullman 206 (April) to 132 (Aug.).

1894 AVERAGE 106–115

Cent. of N. J. ranged from 117 (Mch.) to 87 (Dec.); St. Paul 54 (Jan.) to 67 (Sept.); Del. & Hud. 144 (April) to 119 (Oct.); Lackawanna 174 (Sept.) to 155 (Oct.); Ill. Cent. 95 (Sept.) to 82 (Dec.); Louis. & Nash. 40 (Jan.) to 57 (Sept.); N. Y. Cent. 95 (May) to 102 (Aug.); New Haven 178 (July) to 197 (Dec.); Pennsylvania 96 (Jan.) to 104 (April); Pullman 174 (April) to 152 (July).

1895 AVERAGE 105–121

Cent. of N. J. ranged from 81 (Feb.) to 116 (Sept.); St. Paul 53 (Mch.) to 78 (Sept.); Del. & Hud. 134 (Sept.) to 118 (Dec.); Lackawanna 174 (Oct.) to 154 (Dec.); Ill. Cent. 81 (Jan.) to 106 (Sept.); Louis. & Nash. 66 (Sept.) to 39 (Dec.);

N. Y. Cent. 104 (Aug.) to 90 (Dec.); New Haven 218 (June) to 174 (Dec.); Pennsylvania 97 (Jan.) to 115 (Sept.); Pullman 178 (June) to 146 (Dec.).

1896 AVERAGE 99–113

Cent. of N. J. ranged from 87 (Aug.) to 110 (Nov.); St. Paul 59 (Aug.) to 80 (Nov.); Del. & Hud. 129 (Feb.) to 114 (Aug.); Lackawanna 166 (June) to 138 (Aug.); Ill. Cent. 98 (Jan.) to 84 (Aug.); Louis. & Nash. 55 (Feb.) to 37 (Aug.); N. Y. Cent. 99 (Feb.) to 88 (Aug.); New Haven 184 (Jan.) to 160 (July); Pennsylvania 109 (April) to 99 (Aug.); Pullman 164 (Feb.) to 138 (Aug.).

1897 AVERAGE 104–124

Cent. of N. J. ranged from 103 (Jan.) to 68 (May); St. Paul 69 (April) to 102 (Sept.); Del. & Hud. 99 (April) to 123 (Sept.); Lackawanna 146 (May) to 164 (Aug.); Ill. Cent. 91 (April) to 110 (Aug.); Louis. & Nash. 40 (April) to 63 (Sept.); N. Y. Cent. 92 (Feb.) to 115 (Sept.); New Haven 160 (Feb.) to 185 (Sept.); Pennsylvania 103 (Jan.) to 119 (Sept.); Pullman 152 (Jan.) to 185 (Sept.).

1898 AVERAGE 115–127

Cent. of N. J. ranged from 84 (Nov.) to 99 (Dec.); St. Paul 83 (April) to 120 (Dec.); Del. & Hud. 114 (Feb.) to 93 (Nov.); Lackawanna 159 (Feb.) to 140 (Oct.); Ill. Cent. 96 (April) to 115 (Dec.); Louis. & Nash. 44 (April) to 65 (Dec.); N. Y. Cent. 105 (Mch.) to 124 (Dec.); New Haven 178 (Jan.) to 201 (Dec.); Pennsylvania 110 (Mch.) to 123 (Dec.); Pullman 216 (July) to 132 (Nov.).

1899 AVERAGE 126–144

Cent. of N. J. ranged from 97 (Jan.) to 126 (Nov.); St. Paul 136 (Sept.) to 112 (Dec.); Del. & Hud. 106 (Jan.) to 135 (Sept.); Lackawanna 157 (Jan.) to 194 (Oct.); Ill. Cent. 122 (Jan.) to 105 (Dec.); Louis. & Nash. 63 (Mch.) to 88 (Oct.); N. Y. Cent. 144 (Mch.) to 120 (Dec.); New Haven 198 (Jan.) to 222 (April); Pennsylvania 122 (Jan.) to 142 (Jan.); Pullman 156 (Jan.) to 207 (Oct.).

1900 AVERAGE 132–155

Cent. of N. J. ranged from 115 (Jan.) to 150 (Dec.); St. Paul 108 (June) to 148 (Dec.); Del. & Hud. 106 (Sept.) to 134 (Dec.); *Gt. Northern 144 (June) to 191 (Dec.); Ill. Cent. 110 (June) to 132 (Dec.); Louis. & Nash. 68 (Sept.) to 89 (Dec.); N. Y. Cent. 125 (June) to 145 (Dec.); New Haven 215 (Jan.) to 207 (Sept.); Pennsylvania 124 (Sept.) to 149 (Dec.); Pullman 176 (June) to 204 (Dec.).

1901 AVERAGE 154–174

Cent. of N. J. 145 (Jan.) to 196 (Dec.); St. Paul 134 (May) to 188 (May); Del. & Hud. 185 (April) to 105 (May); Gt. Northern 208 (Mch.) to 167 (May); Ill. Cent. 124 (May) to 154 (June); Louis. & Nash. 76 (May) to 111 (June); N. Y. Cent. 129 (Jan.) to 174 (Nov.); New Haven 206 (Feb.) to 217 (June); Pennsylvania 161 (April) to 137 (May); Pullman 195 (Jan.) to 225 (Oct.).

1902 AVERAGE 170–190

Cent. of N. J. ranged from 198 (Jan.) to 165 (Nov.); St. Paul 160 (Jan.) to 198 (Sept.); Del. &

*Great Northern is substituted here for Lackawanna with the Ore Certificates added beginning with 1907.

Hud. 184 (Jan.) to 153 (Nov.); Gt. Northern 181 (Mch.) to 203 (Dec.); Ill. Cent. 137 (Jan.) to 173 (Aug.); Louis. & Nash. 102 (Jan.) to 159 (Aug.); N. Y. Cent. 168 (Jan.) to 147 (Nov.); New Haven 209 (Jan.) to 255 (April); Pennsylvania 147 (Jan.) to 170 (Sept.); Pullman 215 (Jan.) to 250 (April).

1903 AVERAGE 146–180

Cent. of N. J. ranged from 190 (Jan.) to 153 (Oct.); St. Paul 183 (Jan.) to 133 (Aug.); Del. & Hud. 183 (Feb.) to 149 (Aug.); Gt. Northern 209 (Jan.) to 160 (Oct.); Ill. Cent. 151 (Jan.) to 125 (July); Louis. & Nash. 130 (Jan.) to 95 (Sept.); N. Y. Cent. 156 (Jan.) to 112 (July); New Haven 225 (Jan.) to 187 (May); Pennsylvania 157 (Jan.) to 110 (Nov.); Pullman 235 (Jan.) to 196 (July).

1904 AVERAGE 148–181

Cent. of N. J. ranged from 154 (Feb.) to 194 (Nov.); St. Paul 137 (Feb.) to 177 (Dec.); Del. & Hud. 149 (Mch.) to 190 (Dec.); Gt. Northern 170 (Mch.) to 242 (Dec.); Ill. Cent. 125 (Feb.) to 159 (Dec.); Louis. & Nash. 101 (Feb.) to 148 (Dec.); N. Y. Cent. 112 (Mch.) to 145 (Dec.); New Haven 185 (May) to 199 (Oct.); Pennsylvania 111 (Mch.) to 140 (Dec.); Pullman 209 (Mch.) to 242 (Nov.).

1905 AVERAGE 180–204

Cent. of N. J. ranged from 190 (May) to 235 (Oct.); St. Paul 168 (May) to 187 (Aug.); Del. & Hud. 178 (May) to 240 (Oct.); Gt. Northern 236 (Jan.) to 335 (April); Ill. Cent. 152 (Jan.) to 183 (Sept.); Louis. & Nash. 134 (Jan.) to 157 (Sept.);

N. Y. Cent. 167 (Mch.) to 136 (May); New Haven 216 (Sept.) to 191 (Dec.); Pennsylvania 131 (May) to 148 (Aug.); Pullman 230 (May) to 258 (Aug.).

1906 AVERAGE 180–205

Cent. of N. J. ranged from 204 (May) to 239 (May); St. Paul 189 (Nov.) to 146 (Dec.); Del. & Hud. 189 (May) to 232 (Dec.); Gt. Northern 348 (Feb.) to 249 (Dec.); Ill. Cent. 164 (May) to 184 (June); Louis. & Nash. 156 (Jan.) to 136 (May); N. Y. Cent. 156 (Jan.) to 126 (Nov.); New Haven 204 (Jan.) to 189 (Dec.); Pennsylvania 147 (Jan.) to 122 (July); Pullman 270 (Nov.) to 180 (Dec.).

1907 AVERAGE 119–183

Cent. of N. J. ranged from 220 (Jan.) to 144 (Nov.); St. Paul 157 (Jan.) to 93 (Nov.); Del. & Hud. 227 (Jan.) to 124 (Nov.); Gt. Northern *274 (Jan.) to 144 (Oct.); Ill. Cent. 172 (Jan.) to 116 (Nov.); Louis. & Nash. 145 (Jan.) to 85 (Nov.); N. Y. Cent. 134 (Jan.) to 89 (Dec.); New Haven 189 (Jan.) to 127 (Nov.); Pennsylvania 141 (Jan.) to 103 (Nov.); Pullman 181 (Jan.) to 135 (Nov.).

1908 AVERAGE 126–164

Cent. of N. J. ranged from 160 (Feb.) to 229 (Dec.); St. Paul 103 (Jan.) to 152 (Dec.); Del. & Hud. 141 (Feb.) to 181 (Dec.); Gt. Northern 163 (Feb.) to *223 (Dec.); Ill. Cent. 122 (Feb.) to 150 (Nov.); Louis. & Nash. 87 (Feb.) to 126 (Dec.); N. Y. Cent. 90 (Jan.) to 126 (Dec.); New Haven 128 (Jan.) to 161 (Nov.); Pennsylvania 109 (Jan.) to 132 (Dec.); Pullman 147 (Jan.) to 174 (Nov.).

*These prices include the price of one Ore Certificate.

1909 AVERAGE 156–190

Cent. of N. J. ranged from 215 (Feb.) to 323 (Sept.); St. Paul 141 (Feb.) to 165 (Sept.); Del. & Hud. 168 (Feb.) to 200 (May); Gt. Northern 201 (Feb.) to *246 (Aug.); Ill. Cent. 137 (Feb.) to 162 (Aug.); Louis. & Nash. 121 (Jan.) to 162 (Aug.); N. Y. Cent. 120 (Feb.) to 147 (Aug.); New Haven 174 (June) to 154 (Nov.); Pennsylvania 126 (Feb.) to 151 (Sept.); Pullman 169 (Jan.) to 200 (Aug.)

1910 AVERAGE 150–179

Cent. of N. J. ranged from 312 (Jan.) to 248 (July); St. Paul 158 (Jan.) to 114 (June); Del. & Hud. 185 (Jan.) to 149 (July); Gt. Northern *224 (Jan.) to 163 (July); Ill. Cent. 147 (Jan.) to 124 (July); Louis. & Nash. 160 (Jan.) to 132 (July); N. Y. Cent. 128 (Mch.) to 105 (July); New Haven 162 (Mch.) to 149 (April); Pennsylvania 138 (Mch.) to 122 (July); Pullman 200 (Jan.) to 155 (June).

1911 AVERAGE 147–163

Cent. of N. J. ranged from 260 (Aug.) to 320 (Dec.); St. Paul 134 (Feb.) to 106 (Oct.); Del. & Hud. 175 (June) to 160 (Sept.); Gt. Northern *203 (June) to 163 (Sept.); Ill. Cent. 132 (Jan.) to 147 (July); Louis. & Nash. 136 (Sept.) to 161 (Nov.); N. Y. Cent. 115 (Feb.) to 100 (Sept.); New Haven 151 (Feb.) to 127 (Sept.); Pennsylvania 130 (Feb.) to 119 (Sept.); Pullman 163 (Jan.) to 154 (Sept.).

*These prices include the price of one ore certificate.

1912 AVERAGE 157–170

Cent. of N. J. ranged from 305 (Jan.) to 395 (Apr.); St. Paul 99 (July) to 117 (Nov.); Del. & Hud. 175 (Feb.) to 162 (Dec.); Gt. Northern *165 (Jan.) to 187 (Aug.); Ill. Cent. 141 (Jan.) to 120 (May) Louis. & Nash. 170 (Aug.) to 138 (Dec.); N. Y. Cent. 121 (Apr.) to 106 (Dec.); New Haven 142 (Apr.) to 126 (Dec.); Pennsylvania 126 (Oct.) to 119 (Dec.); Pullman 158 (Feb.) to 175 (Aug.).

(For quotations and prices subsequent to 1912, see Addenda at end of the book.)

*These prices include the price of one ore certificate.

Possibilities of Profit in Conservative Investment Stocks

Suppose $2,500 had been invested in 1861, in the stocks given in the preceding pages, and they had been bought and sold again, every three or four years, what would have been the history of that $2,500? To what would it have amounted today?

In detail the answer would be as follows: Starting in 1861 with an original principal of $2,500 the dividends for three and one half years at 5%, amount to $438. Assume that we invest the $2,500 in the leading stocks of 1861 at their average low price (as given in the preceding chapter) of 62, and hold the stocks for said 3½ years until the average price reaches 160 in 1865, when we sell for $6,560, which together with the interest above mentioned makes a total of $6,998. We leave this amount on deposit in a bank for two years at 4%, so that we have $7,569 to invest in 1867 when the average again falls to 100. We think that with this introduction the table is self-explanatory.

Original Principal invested @ 62	1861		$2,500
Dividends 3½ yrs. @ 5% to	1865	$438	
Princ. bought @ 62–1861, sold @ 160	1865	6,560	
Total Princ. & Dividends	1865		6,998
Comp. Int. @ 4% 2 yrs. Princ. & Int. to	1867		7,574
Invested @ 100 in 1867			
Dividends 2 yrs. 5% to	1869	757	
Princ. bought @ 100–1867 sold @ 144		10,944	
Total Princ. & Div. @ 5%	1869		11,701

Comp. Int. @ 4% 4 yrs. Princ. & Int.	1873		$13,710
Invested @ 75 in 1873....			
Dividends 1 yr. @ 5% to .	1874	$686	
Princ. bought @ 75 in 1873 sold @ 100.	1874	18,300	
Total of Princ. & Dividends @ 5% to 1874.			18,986
Comp. Int. @ 4% 3½ yrs. Princ. & Int.	1877		21,810
Invested @ 55 in 1877....			
Dividends 4 yrs. @ 5% to	1881	4,367	
Princ. bought @ 55 in 1877 sold @ 134.	1881	53,198	
Total Princ. & Dividends @ 5% 1881.			57,565
Comp. Int. @ 4% 3½ yrs. (June) 1881.			
Princ. & Int. to Jan.	1885		66,126
Invested @ 86 in 1885....			
Dividends 4 yrs. 9 mos. @ 5% to Sept.	1889	15,707	
Princ. bought @ 86–1885 sold @ 136.	1889	104,584	
Total of Princ. & Div. @ 5%	1889		120,291
Comp. Int. @ 4% 1 yr. 10 mos. to July 31, 1891....			
Princ. & Int.	1891		128,930
Invested @ 115 in 1891...			
Dividends 1 yr. @ 5% to..	1892	6,446	
Princ. bought @ 115 in 1891 sold @ 135 in.....	1892	151,335	
Total of Princ. & Div. @ 5%.	1892		157,781
Comp. Int. @ 4% 4 yrs...			
Princ. & Int. to.	1896		184,872
Invested @ 100 in 1896...			
Dividends 6 yrs. @ 5% to	1902	55,440	
Princ. bought @ 100 in 1896 sold @ 190.....	1902	351,120	
Total Princ. & Dividends @ 5%.	1902		406,560
Comp. Int. @ 4% 1 yr....			
Princ. & Int. to Oct.....	1903		422,985
Invested @ 146 in 1903...			
Dividends 2 yrs. 3 mos. @ 5% to.	1906	47,583	

Princ. bought @ 146 in 1903 sold @ 205 during Jan	1906	593,885	
Total of Princ. & Div. @5%	1906		641,468
Comp. Int. @ 4% 1 yr. 9 mos. to Nov. 1907 Princ. & Int	1907		687,538
Invested @ 119 in 1907... Divs. 1 yr. 8 mos. @ 5% to Aug	1909	57,288	
Princ. bought @ 119 in 1907 sold @ 190 in Aug..	1909	1,097,630	
Total Princ. & Divs. @ 5% through Aug	1909		1,154,918
Comp. Int. @ 4% 3 yrs. 6 mos. to Feb. 12. Princ. & Int	1913		1,326,682

In the foregoing table 5% is allowed as an average dividend on the stocks held and 4% an average interest on bank deposits or the highest grade commercial paper. The average prices at which the purchases and sales are executed are the "averages" at the beginning of each of the paragraphs above on general stock prices.

The preceding example shows that $2,500 conservatively invested in a few standard stocks about fifty years ago would today amount to over $1,000,000. These are not only strictly investment stocks, but are also stocks which have fluctuated comparatively little in price. This, moreover, was possible by giving orders to buy or sell only once in every three or four years.

If other stocks which were not dividend payers and which have shown greater fluctuations were purchased, and advantage had been taken of the intermediate fluctuations, the $2,500 would have amounted to much larger figures. By intermediate movements is not meant the weekly movements which the ordinary professional operator notes, but the broader movements extending over many months and possibly a year or more. Nevertheless, these broader *intermediate* movements should not be noticed by a conservative investor, as it is possible to *correctly diagnose* only the movements extending over longer periods. Many brokers believe that it is possible to discern also these intermediate movements of six or eight months; and if so the following results would have been possible.

$5,000 invested in "St. Paul" in 1870 would amount to over $10,000,000 today.

$5,000 invested in "Union Pacific" in 1870 would amount to over $15,000,000 today.

$5,000 invested in "Central of New Jersey" would amount to over $30,000,000 today.

$5,000 invested in "Northern Pacific" would amount to over $50,000,000 today.

These figures are not based on the supposition that the investor was selling at the top of every rise or buying at the bottom of every decline, but that the transactions were made at average "high" and average "low" prices based upon the study of technical conditions.

If, however, the investor can in this way increase an investment of $5,000 to $10,000,000 in about forty years without risk he should be satisfied, and should not for the sake of obtaining greater profits assume any additional risks. With this serving as a simple illustration of how money can be made by studying statistics, the following (from a letter written by the manager of a Stock Exchange House) is of interest as an illustration of the other side:

"Hearing on every hand about the fortunes made in Wall Street, I decided, upon being graduated from college, to devote myself to finance. With this end in view I secured a position with a first-class New York Stock Exchange House, finally becoming the 'handshaker' for the firm — that is, 'manager' of the customer's room. So I had an exceptional opportunity to size up the stock busi-

ness. The chief duties of the manager are to meet customers when they visit the office, tell them how the market is acting, the latest news from the news-tickers, and the gossip of the Street. But the real duties are to get business for the house.

"One day a most peculiar man came to the office. He was about forty-five years of age, dressed in a faded cutaway coat, high-water trousers, and an East Side, low-crown derby hat. In a high, squeaky voice he said that he knew our Milwaukee house and would like to open an account. Of course we were all smiles, for here was a new 'customer.'

"One day while in Boston he called us up on the long-distance telephone to make an inquiry about the grain market. One of my assistants, desiring to get a commission out of him, said, 'We hear that Southern Pacific is going up; you had better get aboard.' He answered, 'All right; buy me a hundred at the market.' The stock was bought, but he never saw daylight on his purchase, for the market declined steadily afterward, and by the time he got back from Boston it showed a heavy loss. The man who had advised its purchase had no special knowledge about the stock, but simply took a chance, knowing that the market had only two ways to go, and it 'might' go up, in which case, besides making twenty-five dollars in commissions for the house, he would be patted on the back for his good judgment. If the market went down, as it did, he would still make twenty-five dollars.

"I venture to say that ninety-nine per cent of

the speculations on the New York Stock Exchange are based on such so-called 'tips.' The manager has got to get the business to keep his position and salary, and this can only be done by 'touting' people into the market. So he draws on the 'dope' sheets of the professional tipsters and his own feelings, and gives positive information to the bleating lamb that the Standard Oil is putting up St. Paul, or that certain influential bankers are 'bulling' Union Pacific. The lamb buys the stock, the broker gets the commission, and then the lamb worries his heart out as he sees his one-thousand-dollar margin jumping around in value. Now it has increased to eleven hundred dollars, then declined to nine hundred and fifty dollars, then nine hundred dollars, eight hundred dollars, and then back to eight hundred and fifty dollars, and then it takes the 'toboggan' to three hundred dollars, upon which the broker calls for margins, and sells the customer out if they are not forthcoming, the whole speculation being based on the manager's 'feeling' that stocks ought to go up.

"Men of affairs who wi l not play poker at home, and are shocked at the mention of faro and roulette, which any old-timer will tell you are easier to beat than the stock market, think they are using business judgment when they try to make money on stock market 'tips.'

"Any one with common sense can see that a ten per cent margin has no more chance in an active market than a brush dam in a Jamestown flood. One of the causes for this kind of speculating on a mar-

gin is that a broker's commission is only 12½ cents per share, and it does not pay to do small-lot business. The one-thousand-dollar margin would only buy ten shares outright and net the broker but $1.25 for buying and $1.25 for selling, whereas that same amount as margin on one hundred shares yields the broker $12.50 each way, besides interest on the balance, the net result being that for any given amount of money a speculator on ten per cent margin multiplies his profits by ten and his losses by ten over those that would occur were he to buy the stock outright and take it home. The broker on his side multiplies his commission by ten over what he would receive were he to do an investment business." For further proofs as to the foolhardiness of the average so-called "investor" in stocks see the series of articles in *Everybody's Magazine* that appeared during the spring of 1909. Such a method of buying and selling stock is absolutely unreliable; and unless men are willing to spend money for fundamental statistics they should purchase no listed securities, but confine their purchases to inactive bonds recommended by high-grade bond houses.

On the other hand it is possible to create a fortune by the method that is herein outlined, although it is practically the only method which can be depended upon. It is also the most profitable, as all other methods come under the head of "accumulation by *arithmetical* progression" rather than "accumulation by *geometrical* progression."

In order to increase an investment of $5,000 to

$1,000,000 in thirty years by any other method, a man must accumulate about $25,000 a year, or $100,000 continually *every* four years, *without a break*. This is almost an impossibility so far as the *average* man is concerned and the feat is simply made greater or less in direct proportion to the amount. That is, to build up a fortune of $200,000 requires a laying aside of several thousand dollars every year in addition to allowing all interest to accumulate; while to create a fortune of several millions requires that one should make, exclusively in his business, more money each year than almost any one man in the entire world (*who holds no stocks or bonds*) is making in his business today.

This can best be illustrated as follows: — If one has $1,000 invested in only ten shares of stock, it does not seem very wonderful for it to double in value in three or four years, enabling its sale for $2,000, which is at a profit of $1,000. This is due to the fact that one is accustomed to the thought of handling $1,000; yet with $100,000 in the same stock, it would just as surely become $200,000, giving a profit of $100,000.

In other words, at the beginning there is little difference between "Arithmetical" and "Geometrical" Progression, as $1,000 *added* to $1,000 amounts to $2,000, the same as if multiplied by two. After accumulating $100,000, however, it makes a tremendous difference whether one adds $1,000, making the amount $101,000, or multiplies said amount by two, making the amount $200,000. It is for this reason that it is not only possible to

create a great fortune through conservative investments, *but this is the safest way it can be accomplished.*

The Possibilities of Profits in Bonds

For the benefit of readers who confine their purchases strictly to bonds, the following tables will be found of great interest. Although bonds do not present nearly as great an opportunity for profit as stocks, yet it will be seen that there is often an opportunity of obtaining an average profit of from 10% to 20% in addition to the interest received.

From every point of view a study of these tables clearly shows that the study of fundamental statistics is of great value even to the banker or investor who purchases only bonds. If he buys with the idea of selling again, a study of fundamental statistics is absolutely essential. If one buys for permanent investment only, the study is not essential; but by showing a purchaser when to buy, fundamental statistics will save him *an average of about* 12% *on all purchases.* In order that the reader may not think that these tables were prepared by us merely in the interests of the study of fundamental statistics we take pleasure in stating that they were prepared by a leading New York investment house, whose natural object would be to show that bonds fluctuate very little.

PANIC OF 1884.
COMPARATIVE PRICES OF BONDS.

	1884					
	Low June	High December	Rise from Low	High 1885		Rise from June 1884
Burl., Cedar Rap. & Nor. 1st 5s	95¼	102	6¾	109½	Aug.	14¼
Chesapeake & Ohio 6s (Ser. A)	83	105	22	110	Mar.	27
Can. Southern 1s 5s	92	99	7	109	Dec.	17
Chi., Burl. & Quincy, Iowa Div., 4s	89	93½	4½	99¾	Dec.	10¾
Chi., Mil. & St. Paul, Hastings & Dak. Div., 7s	116	120½	4½	127	Dec.	11
Chi. & Northwestern Deb. 5s	90½	96	5½	106	Oct.	15½
Del. & Hud., Penn. Div., 7s	125¼	132	6¾	137½	July	12¼
N. Y., Lack. & West. 1st 6s	115	120	5	128	Dec.	13
Hannibal & St. Jo. Consol. 6s	110	115	5	119	Aug.	9
Metropolitan Elevated 6s	98	110¾	12¾	118	Dec.	20
Nash., Chat. & St. Lo. 7s	113	120½	7½	126½	Dec.	13½
New York Central 7s	127	133	6	138⅞	Dec.	11⅞
Northern Pacific General 6s	98	103½	5½	115	Dec.	17
Missouri Pacific Consol. 6s	90½	97½	7	108	Dec.	17½
Rome, Wat. & Ogdensburg 5s	64	74	10	90	Dec.	26
St. Lo., Iron Mt. & So. Consol. 5s	53	73	20	91	Dec.	38
Average Rise.....						17⅛

In the panic of 1884 the storm burst in all its violence on May 14th, and the financial depression following reached its depth on the last day of June. The first of July was the great turning point. The year 1885 was one of remarkable recovery. It will be seen from the above table that the average rise of sixteen active bonds from the low in June to the high in December, 1884, was 8½%, while the average rise from the low in June, 1884, to the highest prices touched by the same bonds during the year 1885 was 17⅛%.

	1893 Low August	1893 High December	1893 Rise from Low	High 1894		Rise from Aug. 1893
Canada Southern 1st 5s	99	109½	10½	114	Dec.	15
Cent. of N. J. 5s	102	114¼	12¼	117½	Aug.	15½
Chesa. & Ohio Consol. 5s	90	103½	13½	110	Sept.	20
Chesa. & Ohio Gen'l 4½s	61⅜	78	16¼	78¼	Aug.	16½
C., B. & Q., Nebraska 4s	79½	87⅝	8⅛	92½	Apr.	13
Chi., Mil. & St. P. Gen'l 4s	*a*86	93	7	91⅞	Dec.	5⅞
C. C. C. & St. L., St. L. Div. 4s	89	91	2	92	Oct.	3
East Tenn., Va. & Ga. Consol. 5s	83	92	9	107	Oct.	14
Louisville & Nash. Unif. 4s	75	78¼	3¼	79⅛	Sept.	4⅛
Metropolitan Elevated 6s	112½	114¾	2¼	122	Oct.	9½
Mo., Kan. & Tex. 1st 4s	69	82½	13½	83⅛	Apr.	14⅛
Mo. Pac., Pac. of Mo. Ext. 4s	93	98	5	103¼	Dec.	10¼
N. Y., Chic. & St. L. 1st 4s	89½	98	8½	102⅝	Dec.	9⅞
Pennsylvania Co. 4½s	104¾	110	5¼	113¼	May	8½
Rio Grande Western 1st 4s	54	74	20	71½	Nov.	17½
St. L., Iron Mt. & So. Consol. 5s	60	79½	19½	103⅝	May	43⅝
St. Louis Southwestern 1st 4s	50	61½	11½	62½	Dec.	12½
Wabash 1st 5s	93	103¾	10¾	107½	Apr.	14½
West Shore 1st 4s	93½	104⅛	10⅝	106¾	Dec.	13¼
Average Rise.....						13⅝

*a*July: sales in August, 1893.

The panic of 1893 was one of extreme severity, being followed by an industrial depression extending over about three years. The average rise of nineteen active bonds from the low in August to the high in December, 1893, was about 9.93%, while the average rise from the low in August, 1893, to the highest points touched by the same bonds during the year 1894 was about 13⅝%.

	1903					
	Low August	High December	Rise from Low	High 1904		Rise from Aug. 1903
Balto. & Ohio, Prior Lien, 3½s	91½	96	4½	96¾	Nov.	5¼
Balto. & Ohio, Southwestern, 3½s	86½	89⅞	3⅜	94	Dec.	7½
Canada Southern 1st 5s	102½	105⅝	3⅛	106	June	3½
Cent. of N. J. 5s	126¼	131	4¾	136½	Dec.	10¼
Chi. & Alton Ry. 3½s	70¾	76½	5¾	82⅞	Dec.	12⅛
Chi., Burl. & Quincy, Ill. Div., 3½s	89½	94⅝	5⅛	97¼	Dec.	7¾
Chi., Burl. & Quincy, Nebraska, 4s	102½	105¾	3¼	107	Oct.	4½
Chi., Burl. & Quincy Joint 4s	87½	93⅞	6⅜	101⅛	Dec.	13⅝
Chi. & Eastern Ill. Consol. 5s	113¾	115½	1¾	120	Sept.	6¼
Chi. Mil. & St. P. Gen'l 4s	103	111	8	112	Dec.	9
Chi. & North Western Gen'l 3½s	95½	99⅛	3⅝	100¼	Sept.	4¾
Chi., Rock Island & Pacf. General 4s	99⅜	104	4⅝	106½	Dec.	6⅞
Denver & Rio Grande 1st 4s	97½	100	2½	102½	Dec.	5
Kansas City Southern 3s	65½	70½	5	73¼	Aug.	7¾
Louisville & Nashville Unified 4s	97½	100¾	3¼	104¾	Dec.	7¼
New York Central 3½s	95	100	5	101½	Dec.	6½
Northern Pacific 1st 4s	99½	103	3½	106	Dec.	6½
Reading Gen'l 4s	94	97¾	3¾	103½	Dec.	9½
Rio Grande Western 1st 4s	94	97	3	101	July	7
St. Louis & San Francisco Ref'd 4s	78⅞	85⅛	6¼	91	Dec.	12⅛
St. Louis Southwestern Consol. 4s	66	71½	5½	83	Nov.	17
Southern Railway Consol. 5s	111½	114¾	3¼	121	Dec.	9½

	1903					
	Low August	High December	Rise from Low	High 1904		Rise from Aug. 1903
Union Pacific 1st 4s	99¼	103⅜	4⅛	107½	Dec.	7¼
Wisconsin Central 1st 4s	87	91¾	4¾	93	Dec.	6
Average Rise.....						8.05

The year 1903 was not marked by a financial panic, strictly speaking, although developments on the New York Stock Exchange under the great shrinkage of values there recorded were at times closely suggestive of panicky conditions. Nor did the country have to go through the throes of a great commercial convulsion, although there was necessarily some hesitation and decline in general business. Industrial and financial affairs during 1904 were again on the up-grade. The average rise of the twenty-four active bonds given in the above table from the low in August to the high in December, 1903, was 4.33%, while the average rise from the low in August, 1903, to the highest prices touched by the same bonds during the year 1904 was 8.05%. It will be observed that the decline in bond quotations during 1903 was not nearly so great as the decline in either 1884, 1893, or 1907.

	High 1905–1906	Low 1907	Fall from High 1906	High 1909	Rise from Low 1907
Atchison, Top. & Sa. Fe Gen. 4s	104½	89½	15	101⅞	12⅜
Baltimore & Ohio 1st 4s	105½	88	17½	101⅝	13⅝
Baltimore & So. Western 3½s	93	80	13	91⅞	11⅞
Central of Georgia Cons. 5s	114½	85	29½	111⅜	26⅜
Central of New Jersey Gen. 5s	132	113	19	129	16
Chesapeake & Ohio Cons. 5s	119½	101	18½	113¼	12¼
Chesapeake & Ohio Gen. 4½s	109	87	22	106⅝	19⅝
Chicago & Alton Ref. 3s	82½	58	24½	80	22
C. B. & Q., Ill. Div., 3½s	95¼	82½	12¾	93	10½
Ch., Rock Is. & Pac. Gen. 4s	103¼	88	15¼	101½	13½
Ch., Rock Is. & Pac. Ref. 4s	97	80	17	94	14
Ch., Rock Is. & Pac. R. R. 4s, 2002	81½	49¾	31¾	82¼	32½
Col. & Southern 1st 4s	96½	75	21½	99	22
Delaware & Hudson Conv. 4s	112⅞	88	24⅞	107⅝	19⅝
Erie 1st Cons. Prior 4s	102	84½	17½	91	6½
Illinois Central Gold 3½s	100	91¼	8¾	94	2¾
Kansas City, Ft. Scott & Memphis Ref. 4s	87⅞	61	26⅞	86	25
Lake Shore Deb. 4s 1931	100	83	17	94	11
Louisville & Nash. Unified 4s	104¼	92	12¼	102¼	10¼
Missouri, Kansas & Texas 1st 4s	103	89½	13½	101¼	11¾
Missouri Pacific Coll. 5s	108½	89½	19	103¾	14¼
New York Central 3½s	99¾	85	14¾	94¼	9¼
Norfolk & Western Div. & Gen. 4s	99½	81½	18	95	13½
Northern Pacific 1st 4s	106¼	93⅝	12⅝	104	10⅜
Pennsylvania Conv. 3½s 1915	101	83½	17½	100	16½

PANIC OF 1907.—*Continued.*

	High 1905–1906	Low 1907	Fall from High 1906	High 1909	Rise from Low 1907
Reading Co. Gen. 4s	102⅝	86½	16⅛	101	14½
Rio Grande Western 1st 4s	100	81	19	100⅛	19⅛
St. Louis & San Fran. Ref. 4s	88	66½	21½	89	22½
Southern Pacific Ref. 4s	97⅝	82	15⅝	98⅞	16⅞
Southern Ry. Cons. 1st 5s	119⅛	90	29⅛	113⅛	23⅛
Union Pacific 1st 4s	106¾	92½	14¼	104¾	12¼
Wabash 1st 5s	119	99⅝	19⅜	114½	14⅞
Wabash, Pittsburgh Term. 1st 4s	90½	58	32½	55¼	2¾
Western Maryland 1st 4s	88⅝	59⅞	28¾	88	28⅛
West Shore 1st 4s	109	94	15	104	10
Average Rise.....					15.38

From these tables it will be seen that there is an average fluctuation of about 15% every five or six years, or about 3% for each year. As these bonds yield about 5% when purchased during panics, this makes a total average yield of about 8%. Now, $5,000 at 8% compound interest becomes over $100,000 in about 40 years, and $10,000 becomes $100,000 in only about 20 years. This shows how rapidly money can be multiplied by the use of fundamental statistics, even though one confines one's investments to the highest grade bonds.
(For another list of active bonds which ranged from about 107 in 1905 to 88 in 1907 and back again, see the large sheet in the Addenda.)

As some readers will say, "These figures are all very well, but one might have bought some securities which defaulted," the following tables, prepared by Mr. J. D. Evans, and appearing in one of the many valuable financial articles published by the Van Norden Magazine, are extremely instructive. Of course one may invest in new schemes and lose all the money invested; but if one will confine his investments to securities of established railroads, he has nothing to fear from a reorganization.

Without any noteworthy exceptions the reorganizations have been carried out with the intention of placing the companies in a position of solidity and strength with respect to their fixed obligations, on the low basis of business as it existed at that time. To accomplish this the stockholders and owners of the junior securities of the bankrupt companies were induced to forego a large part of their immediate income from their investments and take their chances of larger returns with the growth of the companies. With the object of making these chances as bright as possible, the reorganization committees were almost invariably quite liberal to the holders of such obligations in their allotment of new securities, especially to such of the old holders as paid the assessments necessary to provide the new capital required.

In the tables presented no attempt is made to include all possible obligations of all reorganized companies. No one would be justified in pre-

tending that absolutely exact general conclusions can be arrived at from any statistical tables made up in a study of reorganizations, since no two bonds issued under different indentures are exactly alike. Therefore only a few typical representatives of the various kinds of bond issues affected by reorganizations are grouped together in the main table and these are then segregated into smaller groups including securities as nearly in the same class as possible. Such general conclusions, arrived at as a result of such a plan, are, however, more valuable than they would be in the other case, inasmuch as typical securities of typical companies have been taken, representing all parts of the country.

"The conservative investor who makes it a practice to buy only the best class of first mortgage bonds with the purpose of insuring the safety of his principal and the continuity of his income, needs only the most casual acquaintance with the outcome of reorganizations to convince him that he has plenty of proof that his stand is a wise one.

"By far the larger proportion of first lien bonds were not disturbed at all either in their lien or rate of interest. In reality their position was greatly strengthened by the financial readjustment and the accretion of fresh capital to assure the continuance and success of the company on whose property they had a prior lien. The fact that there are still outstanding a considerable number of old underlying bonds of reorganized companies selling at premiums ranging from 10% to 30% or 40% is the best evidence of this.

TABLE A — STOCKS AFFECTED BY REORGANIZATION

	Old Stock Surrendered	Assessment	1st Pfd. Stk. Rec'd.	2d Pfd. Stk. Rec'd.	Com. Stk. Rec'd.
Phila. & Reading,	One Class	20%	none	none	100%
Baltimore & Ohio,	1st Preferred	2%	52½%	.....	75%
" "	2d Preferred	20%	20%	.....	150%
" "	Common	20%	20%	.....	100%
Norfolk & Western,	Preferred	12½%	none	.....	112½%
" "	Common	12½%	none	.....	75%
Union Pacific,	One Class	15%	15%	.....	100%
Northern Pacific,	Preferred	10%	50%	.....	50%
"	Common	15%	none	.....	100%
At., Top. & San. Fe,	One Class	10%	10%	.....	100%
Erie	Preferred	8%	none	100%	none
(N. Y., L. E. & W.)	Common	12%	none	none	100%
Averages		113.1%	14%	8½%	88½%
		Total Per Cent of Stocks			110½%
		Per Cent of Old Principal and Assessment			98%

TABLE A — BONDS AFFECTED BY REORGANIZATION

	Old Bonds Surrendered	Rate	Assess't	New Bonds Rec'd	Rate	1st Pfd. Stock Rec'd	2d Pfd. Stock Rec'd	Com. Stock Rec'd
Union Pacific,	First Mortgage	6 %	none	100 %	4 %	50 %	....	none
"	Kansas Div. 1st Mtg	6 %	none	100 %	4 %	50 %	....	none
"	" " Consol	6 %	none	50 %	4 %	110 %	....	none
"	" " Incomes	7 %	none	80 %	4 %	50 %	....	none
"	Sinking Fund	8 %	none	75 %	4 %	100%	....	none
Northern Pacific,	General First Mtg	6 %	none	135 %	4 %	none	....	none
"	General Second Mtg	6 %	none	100 %	4 %	50 %	....	none
"	General Third Mtg	6 %	none	100 %	3 %	50 %	....	none
"	Consolidated Mtg	5 %	none	50 %	3 %	62½%	....	none
"	N. P. & Mon. 1st Mtg	6 %	none	50 %	3 %	50 %	....	none
"	James Riv. Val. 1st Mtg	6 %	none	50 %	3 %	50 %	....	none
"	Collateral Trust Notes	6 %	none	100 %	4 %	20 %	....	none

TABLE A — BONDS AFFECTED BY REORGANIZATION — Continued

Old Bonds Surrendered		Rate	Assess't	New Bonds Rec'd	Rate	1st Pfd. Stock Rec'd	2d Pfd. Stock Rec'd	Com. Stock Rec'd
Atch., Top. & S. F.	General (first) Mortgage.....	4 %	none	75 % *32 %	4 % 4 %	none	....	none
"	Second Mortgage, Class A.....	4 %	4%	none	....	105 %	....	none
"	" " " B.....	4 %	4%	none	....	110 %	....	none
Balt. & Ohio,	Loan of 1853 (1st Mtg.).....	4 %	none	102½% 12½%	3½% 4 %	14 %	....	none
"	Loan of 1874 (1st Mtg.).....	6 %	none	112 % 12 %	3½% 4 %	16 %	....	none
"	Pitts. & Con'lsv. 1st Ext'd M.	4 %	none	102½% 12½%	3½% 4 %	4 %	....	none
"	Phila. Division 1st Mtg.....	4½%	none	100 %	4 %	26½%	....	none
"	Terminal.....	4½%	none	100 %	4 %	none	....	none
"	Consolidated Mortgage.....	5 %	none	105 % 12½%	3½% 4 %	8½%	....	none
Erie,	Reorganization 1st Lien.....	6 %	none	100 %	4 %	none	none	none
(N. Y., L. E. & W.)	Second Cons. Mortgage.....	6 %	none	75 %	4 %	55 %	none	none
"	Collateral Trust	6 %	none	110 %	4 %	none	none	none
Norfolk & Western,	Md. & W. Div. 1st Mtg.....	5 %	none	70 %	4 %	62½%	....	none
" "	Clinch V. Div. 1st Mtg.....	5 %	none	50 %	4 %	70 %	....	none
" "	Adjustment Mtg.....	7 %	none	125 %	4 %	18 %	....	none
" "	100 Years Mtg.....	5 %	none	60 %	4 %	72½%	....	none
" "	Debentures 1892.....	5 %	none	none	....	100 %	....	none
" "	Equipment Mtg.....	5 %	none	100 %	4 %	48 %	....	none
Ph. & Reading,	General Mortgage.....	4½%	none	100 %	4 %	none	none	none
" "	First Income.....	5 %	20%	none	....	30%	100%	none
" "	Second Income.....	5 %	20%	none	....	none	65%	55%
" "	Third Income.....	5 %	20%	none	....	none	35%	85%
†Ches. & O.,	First Mortg. Series B.....	6 %	none	†66⅔% †22⅓%	5 % 4½%	....	....	11%
" "	Sec. Mtg. Currency.....	6 %	none	†33⅓%	4½%	....	....	66⅔%

*Second Mortgage Bond. †The 1st and 2d Pfd. stocks of new C. & O. Co. were later exchanged for bonds, and final results were as indicated in table.

TABLE A—BONDS AFFECTED BY REORGANIZATION—Continued

Old Bonds Surrendered			Rate	Assess't	New Bonds Rec'd	Rate	1st Pfd. Stock Rec'd	2d Pfd. Stock Rec'd	Com. Stock Rec'd
M., Kan. & T. U. P. R. R., So. Branch 1st and other 1st Mtgs. on portions of main system were declared to be due and were paid off in full including the First Consolidated 7% Mtg.									
"	"	General Consolid. Mtg....	6 %	none	64 % *55%	4 % 4 %	27½%	....	none
			5 %	none	55%	4 %			
"	"	General Consolid. Mtg....	5 %	none	*50%	4 %	20 %	....	none
St. L. S. W.,		St. L., Ark. & Tex. 1st Mtg.	6 %	none	100% *25%	4 % 4 %	20 %	....	none
St. L. & S. F.,		St. L., Sal. & Ark., 1st Mtg.	5 %	none	50%	4 %	none	40%	60%
"		Kan. City & So. W. 1st Mtg	6 %	none	65%	4 %	none	40%	60%

*Second Mortgage Bond.

TABLE B — BONDS OF FIRST CLASS

Bonds either entirely or predominantly *first* lien on main properties

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principal
Union Pacific,	First Mortgage	6 %	100 %	50 %	6.00 %	6.00 %
"	Kansas Division, 1st Mtg	6 %	100 %	50 %	6.00 %	6.00 %
Northern Pacific,	General First Mortgage	6 %	135 %	none	5.40 %	5.40 %
A., T. & S. Fe,	General (First) Mortgage	4 %	107 %	none	4.28 %	4.28 %
Balt. & Ohio,	Loan of 1853 (First Mortgage)	4 %	115 %	14 %	4.55 %	4.55 %
"	Loan of 1874 (First Mortgage)	6 %	124 %	16 %	5.04 %	5.04 %
"	Pitts. & Connelsv. (1st Ex. Mtg.)	4 %	115 %	4 %	4.34 %	4.34 %
"	Phila. Division (First Mortgage)	4½ %	100 %	26½ %	5.06 %	5.06 %
Norfolk & Western,	Maryland & Wash. 1st Mtg	5 %	70 %	62½ %	5.30 %	5.30 %
St. Louis S. W.	St. L., Ark. & Tex. 1st Mtg	6 %	125 %	20 %	4.00 %	5.00 %
Averages		5.1%	109.1%	24.3%	4.997%	5.097%

TABLE C — BONDS OF SECOND CLASS

Bonds constituting practically *second* liens on main properties

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principal
Union Pacific,	Kansas Div. Consolidated Mtg	6 %	50 %	110 %	6.40%	6.40%
Northern Pacific,	General Second Mortgage	6 %	100 %	50 %	6.00%	6.00%
Atch., Top. & San. Fe,	Second Mortgage, Class A & B	4 %	none	103 %	0.00%	5.15%
Balt. & Ohio,	Consolidated Mortgage	5 %	117½ %	8½ %	4.52%	4.52%
Chesapeake & Ohio,	First Mortgage, Series B	6 %	89 %	11 %	4.35%	4.45%
Averages		5.40%	71.30%	56.50%	4.25%	5.30%

TABLE D — BONDS OF THIRD CLASS

Bonds constituting practically *third* liens on main properties

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on a Former Principal
Union Pacific,	Sinking Funds	8 %	75 %	100 %	7.00%	7.00%
"	Kansas Div. Incomes	7 %	80 %	50 %	5.20%	5.20%
Northern Pacific,	General Third Mortgage	6 %	100 %	50 %	5.00%	5.00%
Norfolk & Western,	Adjustment Mortgage	7 %	125 %	18 %	5.72%	5.72%
Phila. & Reading,	General Mortgage	4 %	100 %	none	4.00%	4.00%
Chesapeake & Ohio,	Second Mortgage Currency	6 %	33⅓ %	66⅔ %	1.50%	2.16%
Mo., Kan. & Texas,	Gen. Con. Mortgage	6 %	119 %	27½ %	4.76%	5.86%
Averages		6.29%	90.33%	44.43%	4.74%	4.99%

TABLE E — BONDS OF FOURTH CLASS

Bonds constituting practically *fourth or fifth* liens on main property

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principa
Northern Pacific,	Consolidated Mtge	5 %	50 %	62½ %	4.00%	4.00%
Erie,	Reorg. 1st Lien	6 %	100 %	none	4.00%	4.00%
(N. Y., L. E. & W.)	2d Cons. Mtge	6 %	75 %	55 %	3.00%	5.20%
Norfolk & Western,	100 year Mtge	5 %	60 %	72½ %	5.30%	5.30%
Phila. & Reading,	First Income	†6 %	none	130 %	0.00%	5.20%
" "	Second Income	†6 %	none	120½ %	0.00%	4.20%
" "	Third Income	†6 %	none	120 %	0.00%	4.80%
Averages		5.71 %	40.71%	80 %	2.33%	4.76%

†Including 20% assessment.

TABLE F — LOWER GRADE DIVISIONAL OR BRANCH LINES BONDS

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principal
Northern Pacific,	No. Pac. & Mont. 1st Mtge	6 %	50%	50%	3.50%	3.50%
" "	James River Valley 1st Mtge	6 %	50%	50%	3.50%	3.50%
Norfolk & Western,	Clinch Val. Div. 1st Mtge	5 %	50%	70%	4.80%	4.80%
St. L. & San Fran.	St. L. Salem & Ark. 1st Mtge	5	50%	100%	2.00%	†3.60%
" " "	Kan. City & So. W. 1st Mtge	6 %	65%	100%	2.60%	†4.20%
Averages		5.6%	53%	74%	3.28%	3.92%

†The dividends on St. L. & S. F. 2d preferred stock have not been continuous.

TABLE G — MISCELLANEOUS BONDS, DEBENTURES, EQUIPMENTS, COLLATERAL, ETC.

	Old Bonds Surrendered	Old Rate of Return	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principal
Northern Pacific,	Collateral Tr. Notes	6 %	100%	20%	4.80%	4.80%
Baltimore & Ohio,	Terminal	4½%	100%	none	4.00%	4.00%
Erie,	N. Y., L. E. & W., Coll. Tr	6 %	110%	none	4.40%	4.40%
Norfolk & Western,	Debentures 1892	5 %	none	100%	4.00%	4.00%
" "	Equipment Mortgage	5 %	100%	48%	5.92%	5.92%

TABLE H — SUPPLEMENTARY TABLE — STOCKS — ALL CLASSES

	Old Stock Surrendered	New Principal Received in Stock for old Principal and Assessment	Immediate Return on Old Principal and Assessment	Subsequent Return on Old Principal and Assessment
Union Pacific,	One Class	100.0%	0.52%	9.21%
Northern Pacific,	Preferred	90.9%	1.82%	5.00%
" "	Common	86.9%	none	6.08%
Atch., Top. & S. Fe,	One Class	100.0%	none	4.10%
Baltimore & Ohio,	First Preferred	125.0%	2.05%	6.47%
" "	Second Preferred	141.6%	0.66%	8.17%
" "	Common	100.0%	0.66%	5.66%
Erie, N. Y., L. E. & W.,	Preferred	92.6%	none	3.70%
" " "	Common	89.3%	none	none
Norfolk & Western,	Preferred	100.0%	none	4.00%
" "	Common	66.7%	none	2.67%
Phila. & Reading,	One Class	83.3%	none	3.33%
Averages		98.0%	0.476%	4.866%

"There were a few prior mortgage bonds which had their interest rate reduced while otherwise undisturbed, but the best grade bonds that were disturbed fared approximately as indicated in Table B.

"As shown in Table B, the principal on the old first mortgage bonds disturbed was not only conserved but increased an average of 33.3 per cent. as compensation for a reduction in the return on each dollar. This in itself has been a decided advantage inasmuch as the old mortgages, if they had been left to mature, would, at maturity, be redeemed at par or extended on a basis of 4 per cent. or less, whereas the average holder of old disturbed firsts, now has well secured principal greater by 33.3, the whole probably yielding him a 4 per cent. rate.

"This outcome places him on a level with the holder of an undisturbed first mortgage having a high rate of interest and a long period to run which on account of the subsequent enhancement of the credit of the company commands a price of 133.3 per cent.

"The table also shows that the average reduction in immediate return on the bonds included was very slight, being only from an average return of 5.1 per cent. to 4.997 per cent. The rate later increased to 5.097 and with a fair prospect that later it might attain to an appreciably higher figure.

"Thus the buyer of the first mortgages found himself more than justified in his practice, in that the average holder, instead of merely conserving his

principal, received a new principal 133.3 per cent of the old, and although the return was cut down at first, the cut was very slight, and after a comparatively few years the return was restored to about the original rate with every reasonable prospect of eventually becoming greater.

"Of the second, third or fourth grade bonds secured on main properties or low grade divisional and branch line bonds, which follow in their respective tables, each class received a correspondingly severe cut in both their immediate and prospective return.

"Some typical miscellaneous bonds fared as shown in Table G.

"It might be laid down as a general rule that Equipment Trust mortgages were always favorably treated. The treatment of Collateral Trust bonds varied of course materially, depending on the quality of the collateral pledged. Yet it is interesting to observe, in view of the recent adverse discussion of bonds secured by pledge of collateral, that the great majority of bonds of that class were either paid off at par and all accrued interest either by the new company directly, or as a result of the liquidation of the pledged collateral, or were given new securities to full amount of principal, the income from which represented a reduction of only a small proportion of the old income."

That this was the case was nothing short of remarkable considering the depression in the prices of all securities at that time and the difficulty of obtaining any market for even the best of bonds or

stocks, while the collateral pledged under bonds involved in reorganizations usually represented obligations of concerns which shared in the bankrupt condition of the parent company.

The average non-mortgage debenture or the average terminal bond probably fared as per Table G, with a preference in favor of terminal bonds.

To the more speculative investor also, whose preference runs to stocks, the outcome of reorganizations should be of interest. There is much in the subjoined table (H) well worth notice both as calling attention to the success attending the subsequent development of the reorganized companies and as a commentary on the actual prosperity enjoyed by the companies in the period elapsed since 1896 — a prosperity perhaps beyond all expectations of even the reorganizers.

Table H indicates that the average return on the average of the most junior securities issued, shows a rate of return on the *par value* of the old junior securities which approximates, very closely at the present time, and promises soon to equal and eventually far to exceed the return on the original par value of the very best grade of bonds. The significance of this is enhanced when we recollect that whereas the old first mortgage bonds probably remained at a price which averaged near par even when in default, and could probably never have been purchased by the investor at much less than that figure, the stocks of the old companies probably had an average price for a considerable time before reorganization of not over 50 per cent., and

for a very long time many sold as low as 10 per cent., so that a purchaser who bought those securities at those prices and held the new securities issued in exchange, is actually receiving from two to ten times more return on his investment than an investor in the old first mortgage bonds. This outcome was, of course, preceded by a period in which there was practically no return, but that period was very short.

The table on the opposite page, summarizing the tables already given, is appended for the purpose of giving the reader a more ready comparison.

There is still another lesson to be learned from these tables which should be most carefully remembered by such as look down upon the principle of buying and selling every one to four years, outlined in this book. We refer to the fact that those most "conservative" investors and trustees, who buy only for *permanent* investment, *can still well afford to study fundamental statistics.*

Whether or not they ever intend to sell, they should confine their buying to times when fundamental statistics show that underlying conditions are becoming sound. This last is very important, *as it is a great mistake to buy simply because prices are low.*

Investors, if students of fundamental statistics, can well afford to purchase defaulted bonds and other securities of established railroads in the process of reorganization and make tremendous profits thereby, provided they are willing to study fundamental statistics, or, to state it in another way, they

SUMMARY

Group	Old Rate of Return Average	New Principal Received in Bonds	New Principal Received in Stock	Immediate Return on Former Principal	Subsequent Return on Former Principal
First Class	5.10%	109.10%	24.3 %	4.997%	5.097%
Second Class	5.40%	71.30%	56.50%	4.250%	5.30%
Third Class	6.29%	90.33%	44.43%	4.74%	4.99%
Fourth Class	5.71%	40.71%	80.00%	2.333%	4.76%
Low Grade Div. & Branch Line Bonds	5.60%	53.00%	74.00%	3.280%	3.92%
Stocks	none	none	98.00%	0.476%	*4.87%

*This is the rate on par amounts of old securities and assessments if any

can purchase at 50, bonds which, during normal times after the reorganization is completed, they would otherwise purchase at 110. They should, however, be careful not to purchase securities of companies which will soon have to go through a reorganization, just because these securities are selling low. The better way, as above suggested, is to wait until the reorganization is in force and then to purchase only after a careful investigation.

CHAPTER III

RANGE OF COMMODITY MARKET SINCE 1860, SHOWING THE POSSIBILITIES OF PROFIT TO MERCHANTS AND BANKERS. SPECIAL TABLES ON COMMODITY PRICES.

A KNOWLEDGE of Fundamental Statistics is as important to merchants and manufacturers as to investors. The commodity market offers almost as great an opportunity for profit as the stock market. Capital invested in commodities should not depend upon chance for its development. To the merchant or any one else interested wholly or in part in the price movement of crops, manufactures, raw material or merchandise, general figures on underlying conditions, controlling demand and supply, are essential.

To know when to buy and when to sell commodities, in order to take advantage of the larger swings of the market, the merchant must know what the present conditions are and which way the pendulum is swinging. To know how soon to curtail credits extended to customers, and acquire the cash needed to save his credit, when loans cannot easily be renewed, he must watch the Composite Plot. Keeping his eyes only on the details of his own business will not enable him to avoid "hard times." Moreover, by broadening his study he is able greatly to increase his profits, as well as to eliminate losses.

The study of twenty-five important factors like those described in subsequent chapters of this book

UNIV. OF MICH.

by methods similar to those there outlined, results in the perception of clearly defined industrial movements in the past and shows the bearing these factors are having today in commerce and industry, as well as on the monetary and stock market outlook. Great fortunes have been made, the history of which reveals the fact that their possessors had a very accurate knowledge of approaching conditions, because of a keen understanding of fundamental statistics.

As an illustration of possible profits that can be made simply by the purchase and sale of commodities in connection with a study of Fundamental Statistics, the following problem is submitted. Starting with a capital of a little over fifty thousand dollars, ten commodities were selected for purchase. Bought first in 1860, they were sold and bought again at intervals of from three to seven years, according to what the figures on "underlying conditions" indicated. The prices used are those given in the closing paragraphs of this chapter and no departure from the years selected was made, except where there was a choice of either of two years. In such cases, it was assumed that the purchaser would buy later, sell earlier, or leave more cash on deposit as the conditions warranted. The original proportion of the different articles has been kept the same; and the interest, added to the principal on deposit in the intervals between selling and buying, has been reckoned at 4%. Since all commodities are not affected alike by the same conditions, slight losses were allowed

to occur as they would naturally. The resulting amount shows that in about fifty years $54,931 becomes about $1,000,000; or that $1,000,000 would become $18,000,000. By working a similar problem with a single commodity a very much greater profit would have been possible. Thus, if $53,000 was invested in iron in 1860, it would have equalled today about $2,000,000. This clearly demonstrates that even the great mercantile fortunes have been acquired by taking advantage of the same laws and changes that give opportunities of profit to the banker and the investor.

PROBLEM ILLUSTRATING PROFITS DERIVED FROM TRANSACTIONS IN COMMODITIES USING FUNDAMENTAL STATISTICS AS A GUIDE IN BUYING AND SELLING, 1860 TO 1913

Basis, original quantities: 1,000 tons iron; 5,000 bushels wheat; 5,000 bushels corn; 10,000 lbs. cotton; 10,000 lbs. sugar; 10,000 lbs. wool; 10,000 lbs. coffee; 1,000 lbs. rubber; 500 barrels pork; 10,000 lbs. copper. After the first transaction these quantities were multiplied by the numbers shown in the parentheses.

PRICES SAME AS IN TABLES FOLLOWING

Original purchase 1860	$54,931.00
First sale 1864	130,476.25
Capital on dep. 4 yrs. @ simp. int. P. & I. to 1869	151,352.45
Second purchase 1869 (1.8 × orig. quan.)	150,737.85
Remaining capital	614.60
Second sale 1872 (1.8 × orig. quan.)	153,194.40
Capital plus 5 yrs. int. and remaining capital & int. to 1878	184,669.14
Third purchase 1878 (4.46 × orig. quan.)	184,554.80

Remaining capital	$114.34
Third sale 1882 (4.46 × orig. quan.)	261,547.78
Proceeds of third sale on dep. 2 yrs.	282,471.60
Remaining capital & int. on dep. 7 yrs.	146.36
Total capital 1885	282,617.96
Fourth purchase 1885 (7.19 × orig. quan.)	282,610.14
Remaining capital	7.82
Fourth sale 1887 (7.19 × orig. quan.)	349,574.21
Proceeds of 4th sale on dep. 8 yrs. to 1896	461,437.96
Remaining capital on dep. 11 yrs. to 1896	11.26
Total capital 1896	461,449.22
Fifth purchase 1896 (15.3 × orig. quan.)	459,872.10
Remaining capital	1,577.12
Fifth sale 1902 (15.3 × orig. quan.)	697,914.09
Proceeds of 5th sale on dep. 1 yr. to 1904	725,830.65
Remaining capital & int. to 1904	2,081.80
Total capital 1904	727,912.45
Sixth purchase 1904 (18 × orig. quan.)	727,875.00
Remaining capital	37.45
Sixth sale 1907	892,913.40
Proceeds of 6th sale plus capital and int. on remaining capital to 1908	892,956.84
Seventh purchase 1908 (20.9 × orig. quan.)	891,281.55
Remaining capital	1,675.29
Seventh sale 1910	1,000,483.00
Proceeds of 7th sale on dep. 2 yrs. to 1913	1,080,521.64
Remaining capital & int.	2,010.35
Total capital at beginning of 1913	1,082,532.00

When one realizes that if a capital of $50,000 could have been increased to about $900,000 in less than fifty years, simply by a study of fundamental statistics and without borrowing any money or purchasing any but suitable commodities, the great value of this subject to the merchant becomes evident. This moreover can be accomplished without any salesman, overhead charges, or other expenses. If to these figures we should add the natural profit derived from buying at wholesale and selling at retail, or an average manufacturing profit, the $50,000 would become nearly $20,000,000. Thus a capital of $2,500 would accrue to over $1,000,000 by combining either the manufacturer's or retailer's profit with a knowledge of fundamental statistics.

In addition to the value of Fundamental Statistics for determining the trend of demand, supply, and prices, they are of even more value for determining the amount of credit which manufacturers and merchants should at any time extend to customers; but as their use in connection with "credits" is so well understood, no detailed explanation is given in this book.

PRICES OF TEN STAPLE COMMODITIES.
AVERAGE WHOLESALE PRICE FROM 1860-1913.

1860

Wheat $1.37 per bu.; corn $0.73 per bu.; cotton $0.11 per lb.; sugar $0.0988 per lb.; wool $0.55 per lb.; iron $22.70 per ton; copper $0.2287 per lb.; rubber $0.55 per lb.; pork $20.00 per bbl.; coffee $0.1306 per lb.

1861

Wheat $1.30 per bu.; corn $0.60 per bu.; cotton $0.1301 per lb.; sugar $0.08¾ per lb.; wool $0.38 per lb.; iron $20.26 per ton; copper $0.2225 per lb.; rubber $0.55 per lb.; pork $21.00 per bbl.; coffee $0.1275 per lb.

1862

Wheat $1.28 per bu.; corn $0.59¾ per bu.; cotton $0.3129 per lb.; sugar $0.11⅝ per lb.; wool $0.48 per lb.; iron $23.92 per ton; copper $0.2187 per lb.; rubber $0.48 per lb.; pork $12.25 per bbl.; coffee $0.205 per lb.

1863

Wheat $1.16 per bu.; corn $0.84 per bu.; cotton $0.6721 per lb.; sugar $0.14⅛ per lb.; wool $0.75 per lb.; iron $35.24 per ton; copper $0.3387 per lb.; rubber $0.87½ per lb.; pork $18.50 per bbl.; coffee $0.2965 per lb.

1864

Wheat $2.01 per bu.; corn $1.44½ per bu.; cotton $1.015 per lb.; sugar 0.25\frac{9}{16}$ per lb.; wool $1.00 per lb.; iron $59.22 per ton; copper $0.47 per lb.; rubber $0.80 per lb.; pork $44.00 per bbl.; coffee $0.3775 per lb.

1865

Wheat $2.04 per bu.; corn $1.26½ per bu.; cotton $0.8338 per lb.; sugar $0.21⅝ per lb.; wool $0.75 per lb.; iron $46.08 per ton; copper $0.3925 per lb.; rubber $1.20 per lb.; pork $38.00 per bbl.; coffee $0.2537½ per lb.

1866

Wheat $2.20 per bu.; corn $0.90 per bu.; cotton $0.432 per lb.; sugar $0.16⅞ per lb.; wool $0.70 per lb.; iron $46.84 per ton; copper $0.3425 per lb.; rubber $1.00 per lb.; pork $34.00 per bbl.; coffee $0.1718 per lb.

1867

Wheat $3.33 per bu.; corn $1.21 per bu.; cotton $0.3159 per lb.; sugar $0.15⅞ per lb.; wool $0.55 per lb.; iron $44.08 per ton; copper $0.2537 per lb.; rubber $0.65 per lb.; pork $24.50 per bbl.; coffee $0.16 per lb.

1868

Wheat $2.43 per bu.; corn $1.23 per bu.; cotton $0.2485 per lb.; sugar $0.16½ per lb.; wool $0.46 per lb.; iron $39.25 per ton; copper $0.23 per lb.; rubber $0.67½ per lb.; pork $30.00 per bbl.; coffee $0.115 per lb.

1869

Wheat $1.50 per bu.; corn $1.02¾ per bu.; cotton $0.2901 per lb.; sugar $0.16 3/16 per lb.; wool $0.48 per lb.; iron $40.61 per ton; copper $0.2425 per lb.; rubber $0.82 per lb.; pork $34.00 per bbl.; coffee $0.0931 per lb.

1870

Wheat $1.30 per bu.; corn $1.02 per bu.; cotton $0.2398 per lb.; sugar $0.1351 per lb.; wool $0.46 per lb.; iron $33.23 per ton; copper $0.2118 per lb.; rubber $1.00 per lb.; pork $30.50 per bbl.; coffee $0.10 per lb.

1871

Wheat $1.60 per bu.; corn $0.77 per bu.; cotton $0.1695 per lb.; $0.1312 per lb.; wool $0.62 per lb.; iron $35.08 per ton; copper $0.2412 per lb.; rubber $1.00 per lb.; pork $23.00 per bbl.; coffee $0.1375 per lb.

1872

Wheat $1.62 per bu.; corn $0.70 per bu.; cotton $0.2219 per lb.; sugar $0.1237 per lb.; wool $0.72 per lb.; iron $48.94 per ton; copper $0.3556 per lb.; rubber $0.72½ per lb.; pork $16.00 per bbl.; coffee $0.1631 per lb.

1873

Wheat $1.76 per bu.; corn $0.63 per bu.; cotton $0.2014 per lb.; sugar $0.1136 per lb.; wool $0.50 per lb.; iron $42.79 per ton; copper $0.28 per lb.; rubber $0.74 per lb.; pork $18.00 per bbl.; coffee $0.1862 per lb.

1874

Wheat $1.39 per bu.; corn $0.86 per bu.; cotton $0.1795 per lb.; sugar $0.1050 per lb.; wool $0.53 per lb.; iron $30.19 per ton; copper $0.22 per lb.; rubber $0.75 per lb.; pork $24.75 per bbl.; coffee $0.2625 per lb.

1875

Wheat $1.33 per bu.; corn $0.84 per bu.; cotton $0.1546 per lb.; sugar $0.1061 per lb.; wool $0.52 per lb.; iron $25.53 per ton; copper $0.2268 per lb.; rubber $0.58½ per lb.; pork $23.50 per bbl.; coffee $0.1806 per lb.

1876

Wheat $1.35 per bu.; corn $0.62¾ per bu.; cotton $0.1298 per lb.; sugar $0.1051 per lb.; wool $0.38 per lb.; iron $22.19 per ton; copper $0.21 per lb.; rubber $0.64 per lb.; pork $22.75 per bbl.; coffee $0.175 per lb.

1877

Wheat $1.63 per bu.; corn $0.59¼ per bu.; cotton $0.1182 per lb.; sugar $0.1073 per lb.; wool $0.50 per lb.; iron $18.92 per ton; copper $0.19 per lb.; rubber $0.58 per lb.; pork $17.95 per bbl.; coffee $0.1943 per lb.

1878

Wheat $1.24 per bu.; corn $0.53½ per bu.; cotton $0.1122 per lb.; sugar $0.0907 per lb.; wool $0.36 per lb.; iron $17.67 per ton; copper $0.1656 per lb.; rubber $0.49 per lb.; pork $11.35 per bbl.; coffee $0.1385 per lb.

1879

Wheat $1.24 per bu.; corn $0.47 per bu.; cotton $0.1084 per lb.; sugar $0.0881 per lb.; wool $0.37 per lb.; iron $21.72 per ton; copper $0.1862 per lb.; rubber $0.51 per lb.; pork $13.75 per bbl.; coffee $0.1387 per lb.

1880

Wheat $1.30 per bu.; corn $0.55 per bu.; cotton $0.1151 per lb.; sugar $0.0980 per lb.; wool $0.46 per lb.; iron $28.48 per ton; copper $0.2143 per lb.; rubber $0.81 per lb.; pork $19.00 per bbl.; coffee $0.15 per lb.

1881

Wheat $1.30 per bu.; corn $0.62 per bu.; cotton $0.1203 per lb.; sugar $0.0970 per lb.; wool $0.42 per lb.; iron $25.17 per ton; copper $0.1818 per lb.; rubber $0.76 per lb.; pork $20.00 per bbl.; coffee $0.1212 per lb.

1882

Wheat $1.32 per bu.; corn $0.77 per bu.; cotton $0.1156 per lb.; sugar $0.0935 per lb.; wool $0.42 per lb.; iron $25.77 per ton; copper $0.1912 per lb.; rubber $0.87 per lb.; pork $24.75 per bbl.; coffee $0.0975 per lb.

1883

Wheat $1.17 per bu.; corn $0.64 per bu.; cotton $0.1188 per lb.; sugar $0.0865 per lb.; wool $0.39 per lb.; iron $22.42 per ton; copper $0.165 per lb.; rubber $0.07 per lb.; pork $20.15 per bbl.; coffee $0.0931 per lb.

1884

Wheat $1.00 per bu.; corn $0.61½ per bu.; cotton $0.1098 per lb.; sugar $0.0675 per lb.; wool $0.35 per lb.; iron $19.81 per ton; copper $0.13 per lb.; rubber $0.96 per lb.; pork $19.50 per bbl.; coffee $0.1062 per lb.

1885

Wheat $0.94 per bu.; corn $0.51 per bu.; cotton $0.1045 per lb.; sugar $0.0653 per lb.; wool $0.32 per lb.; iron $17.99 per ton; copper $0.1083 per lb.; rubber $0.56 per lb.; pork $13.25 per bbl.; coffee $0.09 per lb.

1886

Wheat $0.88¾ per bu.; corn $0.52¼ per bu.; cotton $0.0928 per lb.; sugar $0.0623 per lb.; wool $0.33 per lb.; iron $18.71 per ton; copper $0.1100 per lb.; rubber $0.61 per lb.; pork $12.20 per bbl.; coffee $0.095 per lb.

1887

Wheat $0.88 per bu.; corn $0.48¾ per bu.; cotton $0.1021 per lb.; sugar $0.0602 per lb.; wool $0.34 per lb.; iron $20.93 per ton; copper $0.1385 per lb.; rubber $0.76 per lb.; pork $24.00 per bbl.; coffee $0.1684 per lb.

1888

Wheat $0.94 per bu.; corn $0.59¼ per bu.; cotton $0.1003 per lb.; sugar $0.718 per lb.; wool $0.29 per lb.; iron $18.88 per ton; copper $0.1677 per lb.; rubber $0.76 per lb.; pork $16.00 per bbl.; coffee $0.1581 per lb.

1889

Wheat $0.91 per bu.; corn $0.43¾ per bu.; cotton $0.1065 per lb.; sugar $0.0789 per lb.; wool $0.35 per lb.; iron $17.76 per ton; copper $0.1349 per lb.; rubber $0.74 per lb.; pork $13.37½ per bbl.; coffee $0.1765 per lb.

1890

Wheat $0.92 per bu.; corn $0.48½ per bu.; cotton $0.1107 per lb.; sugar $0.0627 per lb.; wool $0.33 per lb.; iron $18.41 per ton; copper $0.156 per lb.; rubber $0.80 per lb.; pork $13.62½ per bbl.; coffee $0.1793 per lb.

1891

Wheat $1.05 per bu.; corn $0.67½ per bu.; cotton $0.086 per lb.; sugar $0.0465 per lb.; wool $0.31 per lb.; iron $17.52 per ton; copper $0.1276 per lb.; rubber $0.78 per lb.; pork $13.00 per bbl.; coffee $0.1671 per lb.

1892

Wheat $0.908 per bu.; corn $0.54 per bu.; cotton $0.0771 per lb.; sugar $0.0435 per lb.; wool $0.28 per lb.; iron $15.75 per ton; copper $0.1156 per lb.; rubber $0.6763 per lb.; pork $15.05 per bbl.; coffee $0.1430 per lb.

1893

Wheat $0.739 per bu.; corn $0.499 per bu.; cotton $0.0856 per lb.; sugar $0.0484 per lb.; wool $0.24 per lb.; iron $14.52 per ton; copper $0.1075 per lb.; rubber $0.7167 per lb.; pork $21.80 per bbl.; coffee $0.1723 per lb.

1894

Wheat $0.611 per bu.; corn $0.509 per bu.; cotton $0.0694 per lb.; sugar $0.0412 per lb.; wool $0.20 per lb.; iron $12.66 per ton; copper $0.0952 per lb.; rubber $0.6744 per lb.; pork $14.57½ per bbl.; coffee $0.1654 per lb.

1895

Wheat $0.669 per bu.; corn $0.477 per bu.; cotton $0.0744 per lb.; sugar $0.0412 per lb.; wool $0.18 per lb.; iron $13.10 per ton; copper $0.1053 per lb.; rubber $0.7425 per lb.; pork $12.87½ per bbl.; coffee $0.1592 per lb.

1896

Wheat $0.781 per bu.; corn $0.340 per bu.; cotton $0.0793 per lb.; sugar $0.0453 per lb.; wool $0.17 per lb.; iron $12.95 per ton; copper $0.1098 per lb.; rubber $0.80 per lb.; pork $10.85 per bbl.; coffee $0.1233 per lb.

1897

Wheat $0.954 per bu.; corn $0.319 per bu.; cotton $0.07 per lb.; sugar $0.0455 per lb.; wool $0.21½ per lb.; iron $12.10 per ton; copper $0.1136 per lb.; rubber $0.8454 per lb.; pork $9.00 per bbl.; coffee $0.0793 per lb.

1898

Wheat $0.952 per bu.; corn $0.376 per bu.; cotton $0.0594 per lb.; sugar $0.0497 per lb.; wool $0.28 per lb.; iron $11.66 per ton; copper $0.1205 per lb.; rubber $0.9271 per lb.; pork $12.30 per bbl.; coffee $0.0633 per lb.

1899

Wheat $0.794 per bu.; corn $0.413 per bu.; cotton $0.0688 per lb.; sugar $0.0492 per lb.; wool $0.29 per lb.; iron $19.36 per ton; copper $0.1776 per lb.; rubber $0.9954 per lb.; pork $10.45 per bbl.; coffee $0.0604 per lb.

1900

Wheat $0.804 per bu.; corn $0.453 per bu.; cotton $0.0925 per lb.; sugar $0.0532 per lb.; wool $0.28¼ per lb.; iron $19.98 per ton; copper $0.1665 per lb.; rubber $0.9817 per lb.; pork $16.00 per bbl.; coffee $0.0822 per lb.

1901

Wheat $0.803 per bu.; corn $0.567 per bu.; cotton $0.0875 per lb.; sugar $0.0505 per lb.; wool $0.25 per lb.; iron $15.87 per ton; copper $0.1672 per lb.; rubber $0.8496 per lb.; pork $16.80 per bbl.; coffee $0.0646 per lb.

1902

Wheat $0.836 per bu.; corn $0.684 per bu.; cotton $0.09 per lb.; sugar $0.0446 per lb.; wool $0.26 per lb.; iron $22.19 per ton; copper $0.1216 per lb.; rubber $0.7273 per lb.; pork $18.70 per bbl.; coffee $0.0586 per lb.

1903

Wheat $0.853 per bu.; corn $0.372 per bu.; cotton $0.1118 per lb.; sugar $0.0464 per lb.; wool $0.31½ per lb.; iron $19.92 per ton; copper $0.1372 per lb.; rubber $0.9054 per lb.; pork $18.37 per bbl.; coffee $0.0559 per lb.

1904

Wheat $1.107 per bu.; corn $0.594 per bu.; cotton $0.1175 per lb.; sugar $0.0477 per lb.; wool $0.32½ per lb.; iron $15.57 per ton; copper $0.1301 per lb.; rubber $1.0875 per lb.; pork $16.58 per bbl.; coffee $0.0782 per lb.

1905

Wheat $1.028 per bu.; corn $0.593 per bu.; cotton $0.098 per lb.; sugar $0.0526 per lb.; wool $0.36 per lb.; iron $17.88 per ton; copper $0.1589 per lb.; rubber $1.2425 per lb.; pork $16.50 per bbl.; coffee $0.0832 per lb.

1906

Wheat $0.865 per bu.; corn $0.56 per bu.; cotton $0.115 per lb.; sugar $0.0452 per lb.; wool $0.33 per lb.; iron $20.98 per ton; copper $0.1961 per lb.; rubber $1.2131 per lb.; pork $20.00 per bbl.; coffee $0.0811 per lb.

1907

Wheat $0.963 per bu.; corn $0.64 per bu.; cotton $0.121 per lb.; sugar $0.0465 per lb.; wool $0.34 per lb.; iron $23.89 per ton; copper $0.2125 per lb.; rubber $1.0633 per lb.; pork $17.56 per bbl.; coffee $0.0658 per lb.

1908

Wheat $1.04⅞ per bu.; corn $0.786 per bu.; cotton $0.106 per lb.; sugar $0.0496 per lb.; wool $0.34 per lb.; iron $17.70 per ton; copper $0.133 per lb.; rubber $0.8708 per lb.; pork $15.973 per bbl.; coffee $0.0628 per lb.

1909

Wheat $1.20⅝ per bu.; corn $0.767 per bu.; cotton $0.126 per lb.; sugar $0.0476 per lb.; wool $0.35 per lb.; iron $17.81 per ton; copper $0.129 per lb.; rubber $1.505 per lb.; pork $21.5673 per bbl.; coffee $0.0783 per lb.

1910

Wheat $1.18 per bu.; corn $0.663 per bu.; cotton $0.15 per lb.; sugar $0.0497 per lb.; wool $0.31 per lb.; iron $17.36 per ton; copper $0.127 per lb.; rubber $1.956 per lb.; pork $24.04 per bbl.; coffee $0.0952 per lb.

1911

Wheat $0.099 per bu.; corn $0.635 per bu.; cotton $0.129 per lb.; sugar $0.05345 per lb.; wool $0.28 per lb.; iron $15.71 per ton; copper $0.1240 per lb.; rubber $1.16 per lb.; pork $19.63 per bbl.; coffee $0.1341 per lb.

1912

Wheat $1.099 per bu.; corn $.727 per bu.; cotton $0.115 per lb.; sugar $0.049 per lb.; wool $0.295 per lb.; iron $16.40 per ton; copper $0.163 per lb.; rubber $1.080 per lb.; pork $19.72 per bbl.; coffee $0.143 per lb.

(For quotations and prices subsequent to 1912, see Addenda at end of the book.)

As a check upon the above specific figures, the same general results may be shown by the use of Bradstreet's Index of American Commodity Prices or the Economist's Index of English Commodity Prices. Both of these indexes show tremendous fluctuations, and most clearly demonstrate the great need for merchants and all dependent upon the welfare of merchants, to study fundamental statistics.

Though economists agree that there is a very intimate relation between the prices of commodities and the price of money, many banks expend far too little time in studying fundamental statistics and in forecasting future money conditions. With a general foreknowledge of the tendency of rates, a bank may so arrange its maturities as to obtain at least one-half of one per cent. more on outstanding loans than is possible without such knowledge. It may be necessary to allow a customer to choose either the "rate" or the "maturity," but banks should insist upon their right to fix the other factor and, when doing so, should have in mind the tendency of the money market. If the tendency is upward and the borrower desires to pay only the market rate, the bank should insist on a short loan; while if the borrower desires a long-time loan, the bank should insist on a rate above current market rates. The reverse is true if the tendency of money is downward. Some banks even keep a weekly record of the exact rate of income their loans average.

To buy bonds when money is cheap, in order to obtain a higher income than can be obtained on

notes, is a very dangerous practice; as banks then purchase bonds after the price has advanced and are often compelled to sell them at a loss during the next money stringency or else refuse accommodation to customers. By studying the teachings of fundamental statistics, however, a bank may safely purchase high-grade securities with the expectation of later selling them at a profit; because such banks know when this time for selling said securities is at hand. The most conservative banks purchase for permanent investment only government and such bonds as can be counted as "Reserve," and purchase general corporation bonds (those of the very highest grade) only for the purpose of selling again at a profit in the course of a short time. Such banks buy them during a period of high money when bonds are always low; and sell them before money again becomes high.

Such conservative banks not only receive an income of about 4% upon such securities and a profit of from 10% to 20% on the sale, but also are always in the strongest possible condition with very large reserves at the time of a crash or money stringency. Therefore, the study of fundamental statistics not only enables banks to receive greater income from their loans and large profits from the purchase and sale of securities, but insures that such banks buy only the highest grade of securities, and, moreover, sell them before the money is needed for reserve purposes and the accommodation of local customers.

In short, banks have two distinct functions:

(1) Aiding in the creation and operation of transportation, industrial, and commercial enterprises by providing the capital therefor.

(2) Regulating the number and growth of such enterprises by conscientiously increasing or contracting this supply of capital.

The first function is performed by collecting money from a large number of people, known as "depositors," and loaning the same for definite periods by purchasing therewith commercial paper and other securities such as most depositors would be unable to do independently. The second function is performed by varying the amount of cash and securities held; for instance, during periods of panic or of depression, when most individuals withdraw money from useful channels and withhold cash, it is a bank's duty to give out all cash possible by purchasing such good commercial paper and high-grade securities as are selling below their true value. On the other hand, during periods of great prosperity, it is a conservative bank's duty to dispose of a large portion of this commercial paper and these other securities, storing up large cash reserves pending the next period of money stringency and panic conditions.

In this way such banks not only perform a great service both to depositors and borrowers by combining small sums and loaning them in safe and profitable channels, but also act as regulators and "storage basins" for the entire business community. Such banks store cash during periods of great prosperity, when the public is willing to loan anybody

and buy anything, and then give out such cash during periods of depression when the public refuses to loan solvent borrowers or to purchase even the highest-grade securities. Moreover, for performing these two functions such banks receive a twofold reward, namely: the *market rate of interest* on the loans and securities held, and also every few years a *large profit on the sale of securities*. Moreover, banks which do not fulfil these two functions not only fail to serve fully their true purpose in the community, but also make very much smaller profits and assume very much greater risks.

Many banks have heretofore failed to perform this second function owing to their inability to obtain *independently* the necessary statistics for correctly judging the trend of conditions; but as such statistics may now be obtained at small expense from a central agency,* this objection is overcome. The above also applies as well to borrowers of money as to lenders.

Moreover, the most successful manufacturers and merchants have found that the system of "*fixed*" credit limits for customers is absolutely wrong in principle; unjust to customers; unfair to the sales force and a source of danger to the firm.

Instead, a system of "flexible" credit limits is used by which credits are increased and decreased, in accordance with the relative position and size

*In order that firms may keep accurately informed as to present and future conditions, my statisticians accumulate and analyze the necessary facts and figures used in determining the same. These figures we supply to our subscribers together with certain Weekly Barometer Figures. These Barometers are of great value in connection with the purchase of merchandise, the discounting of commercial paper and the investment of money.
R. W. B.

of the latest area of the Composite Plot of Business Conditions explained in the following chapter. *This system invariably results in greatly increased sales* and yet insures that a firm shall be in a strong financial position at a time of panic or business crisis. These various practical applications of fundamental statistics cannot, however, be explained in detail in this volume.

CHAPTER IV

THE THEORY OF FUNDAMENTAL STATISTICS

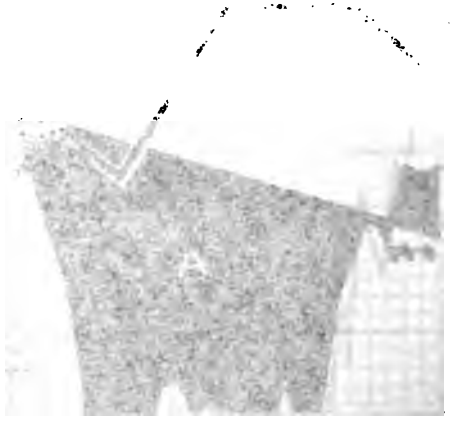
UP to the present point I have been content in outlining what is meant by Fundamental Statistics and the great value of such statistics to bankers, merchants and investors. I now wish to show why the subjects heretofore mentioned are studied and what evidence we have for using the laws upon which this work is based.

That there have always been periods of depression and periods of prosperity and intermediate periods, every one already knows.* There is absolutely no dispute regarding this first point, but as to the *duration* of these periods there is a distinct difference of opinion. It is the general impression that the great major cycles are of about twenty years' duration, and the minor cycles are of about five years' duration, with possibly still other cycles of about ten years' duration. Probably the most interesting work on this subject was done by Samuel Benner who, from 1875 to 1884, formulated a most elaborate system of charts and who, without doubt, clearly foretold the panics of 1884 and 1893, and the prosperous years intervening. Many other men have devised other charts and theories, some based on supposed economics and others based on superstition, but all have been found to fail, and have been forgotten.

Upon careful examination all these charts and

*See Monetary Commission volume on "Crises," by Professor O. M. W. Sprague of Harvard, a foremost authority on "Applied Economics."

UNIV. OF MICH.



theories are found to have two great defects; and it is only because the area theory herein discussed eliminates these two defects that said theory and the Composite Plot deserve attention.

Reaction Equals Action

The first defect in the old theory of Benner and other writers consisted in the fact that they based their calculations simply on either *time* or *intensity*, instead of on their product. There is no law in physics or nature that any action or any reaction must come with any definite regularity. There is, however, a law under which mechanics, medicine, and other sciences move, namely that "action and reaction are equal." This is absolutely true; but when a mechanic or a physician or any one else attempts to go one step further, he fails completely. Action and reaction are equal; but of what "reaction" consists, there is no known law. For instance, we may say that certain reaction amounts to one hundred foot-pounds. But whether the body weighs one hundred pounds and is moved one foot or weighs only one pound and is moved one hundred feet, we have no way of knowing until we learn one factor.

In other words, to say that a period of prosperity or a period of depression will last any given time, irrespective of the business activity of the country during such time, is contrary to all basic law. Yet upon such reasoning most of our predecessors have worked, while the others believed that a change in conditions comes when figures for pig-iron, bank

clearings or commodity prices reach a certain point. They entirely ignore the *product* of time and intensity. Only by multiplying one by the other can the true reaction be ascertained. Time, then, may be compared to space, and intensity may be compared to weight, and their *product* to space multiplied by weight or to "foot-pounds."

For this reason, when studying a Composite Plot like the annexed (which is based on all the twelve subjects heretofore mentioned), able bankers and merchants today do not study height nor length, but simple *area*. That is, such men believe that the shaded portions *above* the line of growth X-Y, shown in the plot, should approximately equal in *area* the shaded portion *below* said line. Thus, if the country is enjoying a condition of only medium activity, prosperous conditions may be expected to extend over a longer time than if tremendous prosperity now abounds, and vice versa.*

Leading bankers, merchants and investors, therefore, collect data on all these subjects, in order to keep always informed as to the consumption of the area. This is the first and most important step in forecasting future mercantile, monetary and investment conditions.

All Subjects must be Considered

The second great error heretofore made by these economists consisted in the fact that each man seemed to focus his attention on only one or two subjects, instead of making a composite interpre-

*See "Cours d'Economie Political," by Vilfredo Pareto, Vol. II.

tation of all. Some would study bank clearings, some foreign trade, others gold movements and so on, believing that, as the figures on their particular pet subject or subjects changed, it was possible to forecast future conditions. Many still believe it is possible to follow certain subjects in this way; but all such systems are absolutely wrong. No one of these subjects, when studied independently, serves to foretell the great changes in conditions which have occurred since 1860. Some of the subjects seem to work out better than others; but all of them entirely fail to give proper warning in all instances.

For illustration, "gold movements" formerly was used as one of the very best barometers of future conditions. During heavy imports of gold (such as occurred in 1878–1882) the United States enjoyed unparalleled prosperity and after said imports declined and the exports of gold exceeded the imports (as in 1882–1883) followed the panic of 1884. This same rule worked most admirably in forecasting the prosperous times of 1888–1890, the panic of 1893, and the prosperous times of 1898–1902. The rule, however, did *not* work in forecasting the panic of 1903 nor the prosperous years following, and the heaviest imports of gold the United States ever enjoyed preceded the panic of 1907. Of course the reason for these huge imports in 1906–1907 is now well understood; but any one who in 1906 simply studied the bare figures, without knowing that such importations were artificial, would have been justified in expecting that 1907

and 1908 would be years of great prosperity. On the other hand, such an error would not have been possible if a study had simultaneously been made of the other leading subjects.

In short, a study of all these subjects reveals the fact that no one of them can *always* be depended upon; but that in the case of every panic, or other change in business conditions, some of the subjects fail to give any warning whatsoever. On the other hand, such study has shown that there has not been a single case when a change in conditions has not been fully and plainly foretold by a *majority* of these subjects. If one will study the figures of plots which treat of the twelve or more most important of said subjects, the following facts are self-evident:

Four general rules can be worked out for each subject — one rule for each of the four periods of prosperity, decline, depression and improvement, respectively. These rules are given in detail for each of the subjects under the twelve headings, in Chapters VI, VII and VIII. The basis of these rules is that very high figures, such as appear during very prosperous conditions, foretell a panic or period of decline. When the high point is passed and the plot points downward, as occurs during a decline, a period of depression may be expected. Very low figures, such as appear during a depression, foretell a period of improvement, and when the low point is passed and the plot turns upward, as occurs during a period of improvement, prosperous conditions may again be expected.

Although bankers and merchants may often depend upon what *one* of these subjects signifies, yet it is never safe to do so. On the other hand, it is safe to *always* depend upon what the *majority* of the subjects signify. That is, if during prosperous times we are studying twenty-five subjects, and more than fourteen signify either "no further improvement" or "caution," then we may begin to prepare for trouble which is sure to follow. Conversely, if during a business depression fourteen of the twenty-five subjects foretell "improvement," then improvement will surely follow.

General Considerations

Therefore, all figures are best reduced to a single line summary plot, in order to ascertain the "area" above or below the average line, although the separate charts on the different subjects may be again referred to as a check and interpreted in accordance with the laws just outlined. If both the composite plot and the interpretations foretell the same change, this change may surely be expected to come to pass; while if both do not foretell the same change, one may assume that *at this moment* conditions are uncertain, although a week or so later this uncertainty may not exist.

This practically completes the work, although as a further study, it is interesting to refer back to previous history and ascertain what changes, after such conditions as exist today, have followed in the past. This is accomplished by referring back to points in the various past business cycles when (1)

the same area above or below the average line existed as exists today; and (2) when a majority of the twenty-five subjects foretold (according to the above rules) the same conditions which they foretell today.

In connection with this feature there is a certain sequence of events which is also a distinct aid to bankers, merchants and investors when studying these figures. This sequence is similar to the various stages of disease with which physicians are so familiar. Sometimes one stage of the disease "runs" longer than usual; *but the sequence is always the same.* In the same way, it is not always possible to judge correctly the exact duration of each period of increase or decline in prices; but by a study of fundamental statistics it is always possible to ascertain *in which period we are and what will be the next period.* If, for instance, a study of fundamental conditions shows us to be in a period of increasing money rates, we know that we shall pass through ten periods before we shall again enter a period of increasing money rates. These periods are as follows:

1. Period of Increasing Money Rates.
2. Period of Declining Bond Prices.
3. Period of Declining Stock Prices.
4. Period of Declining Commodity Prices.
5. Period of Declining Real Estate Prices.
6. Period of Low Money Rates.
7. Period of Increasing Bond Prices.
8. Period of Increasing Stock Prices.
9. Period of Increasing Commodity Prices.

10. Period of Increasing Real Estate Prices.
1. Period of Increasing Money Rates.

As the prices of stocks continue to rise after the prices of bonds begin to fall, bankers expect the prices of stocks to continue to decline for some time after the prices of bonds have become steady. Industry, as a whole, generally follows several months behind stock prices. The prices of commodities, perhaps, stop rising at about the same time that the prices of bonds stop falling. Interest rates are likely to continue to rise until the prices of land values have declined sharply. This latter event usually completes the decline in prices that precedes and accompanies a panic. Conditions in other countries and crop conditions in this country also have much to do with the date and extent of a period of depression or a period of prosperity.

In short, this study of fundamental statistics consists simply in ascertaining present surface conditions and interpreting them with the view of forecasting future conditions. In many ways the work resembles the work of a physician. A man goes to his physician to be examined for life insurance and the physician *first* obtains a knowledge of the man's present condition by an examination of his pulse, temperature, kidneys, respiration, etc. The physician *secondly* refers to his medical library and ascertains what usually follows when a man's heart, kidneys, lungs, etc., are in such a condition as the patient's, and thus interprets these symptoms. The physician *thirdly* combines his knowledge of the man, his present condition, his mode of

life and his symptoms, and forecasts for the insurance company how long, in his opinion, based on previous history, this man will live. That action and reaction are equal and that history usually repeats itself is the foundation of the science of medicine, and upon such a foundation the great business of life insurance is absolutely dependent. If the reader believes there is nothing to the science of medicine and that any average man knows as much and can advise as well about one's physical condition as a highly trained physician, then he is not expected to be a believer in fundamental statistics. On the other hand, if he has faith in the knowledge and advice of an able physician, then he should give this subject most careful attention and consideration.

The Mechanical Work

In the first portion of this book I described the meaning of fundamental statistics and their use. In this chapter I have outlined the theory underlying the work and the reason why such statistics may be depended upon. Now a few words may be given to explaining the mechanical work of compiling and reducing these figures to one single "Summary Barometer Figure" such as is the basis of the above-mentioned Composite Plot.

In approaching the work, although other methods may seem sufficient, the need of direct and definite results leads the student to seek a systematic, comprehensive, and uniform practice, so that a basis of comparison from period to period may be

established at the outset. The course usually followed by the leading bankers, merchants and investors when studying fundamental statistics is to collect data covering a long period of years, and relating to such subjects as the following twenty-five which are grouped under twelve headings.

These twelve headings correspond almost identically with the twelve subjects mentioned in Chapter I.

I. *Building and Real Estate.*
Building Operations (with fire losses).

II. *Bank Clearings.*
Total Bank Clearings of the United States.
Bank Clearings of the United States, excluding New York City.

III. *Business Failures.*
Tables on number of failures, amount of liabilities, and ratios.

IV. *Labor Conditions.*
Tables of immigration figures and notes on the general situation.

V. *Money Conditions.*
Money in Circulation.
Comptroller's Reports. (This is the only one of the twenty-five subjects for which no figures can be obtained monthly.)
Loans of the New York Banks.
Cash held by the New York Banks.
Deposits in the New York Banks.
Surplus Reserves of the New York Banks.

VI. *Foreign Trade.*

Imports of Merchandise into the United States.

Exports of Merchandise from the United States.

Balance and Volume of Trade.

VII. *Gold Movements.*

Gold Movements, with tables on the exports, the imports and the balance of gold movements.

Domestic and Foreign Money Rates and Foreign Exchange, with tables on the rates in London, Paris and Berlin.

VIII. *Commodity Prices.*

Production of Gold. (Tables giving the production in the Rand Mines which best show the trend in the production of the entire world.) Prices of Commodities, including wheat, corn, cotton, iron, copper, etc.

IX. *Investment Market.*

Stock Exchange Transactions. Tables on number of shares traded in, the bond sales, and the high and low prices of the ten leading investment stocks given in Chapter II. The latter tables contain the high and low prices for each year since 1859, and the high and low for the current year, revised each month.

New Securities. Tables for the new securities listed on the New York Stock Exchange

and figures relative to other issues publicly offered or authorized, but as yet unlisted.

X. *Crops and Commodity Statistics.*
Crop Conditions and Production of commodities, including pig-iron and copper.

XI. *Railroad Earnings.*
Gross and Net Earnings of ten leading railroads, with annual figures for all railroads relative to the new mileage constructed, etc.
Idle Car Figures, for the current year and the corresponding months of the preceding two or three years.

XII. *Social Conditions.*
Political Factors.
Religious Statistics.

The figures on these twenty-five subjects are kept upon large desk sheets, and may be divided into the above twelve sections. It has taken many years to accumulate these figures, as they represent tedious and careful research. They are the foundation of the entire work, and it is impossible to make practical use of fundamental statistics excepting in connection with these tables for preceding years and months.

The Composite Plot

The subjects in the list above outlined are arranged so they may be grouped and classified under the three following headings:

1. *Tables used when studying mercantile conditions.*

2. *Tables used when studying monetary conditions.*
3. *Tables used when studying investment and other conditions.*

In detail this classification is as follows:

(These divisions are purely arbitrary, as every subject affects in some manner each of the three divisions.)

FOR CORPORATIONS AND MERCHANTS.

Iron Production and New Building.
Bank Clearings.
Business Failures.
Labor Conditions.
(Also Earnings, Crops, Politics, etc.)

FOR BANKERS AND OTHERS LOANING MONEY.

Money Rates.
Foreign Trade. (Surplus Reserve.)
Foreign Money Rates and Gold Movements.
Commodity Prices.
(Also Clearings, Failures, Politics, etc.)

FOR STOCK EXCHANGE FIRMS, BOND HOUSES AND INVESTORS.

Stock Prices and Transactions.
Crop Statistics.
Idle Car Figures and Railroad Earnings.
Social and Political Factors.
(Also all figures on Mercantile and Monetary Conditions.)

Investors and merchants who carefully study the figures on these subjects each week obtain one

barometer figure* for present surface conditions for each of the three headings given above. Then, by averaging the three figures, they obtain a final *summary barometer figure* for present surface conditions.

The summary barometer figure for present conditions — when plotted from January, 1903, to date, gives the outline of the black Composite Plot, which is such a valuable guide when studying business conditions.

The large black areas are formed by combining and plotting the published figures for the past seven years on Bank Clearings, Failures, Money Rates, Idle Cars, etc., in order to give a composite view of actual business conditions.

One of the most important features is the location of the line X-Y. This line should move upward or downward, according to the actual growth of the country and is determined by the results of certain business activity. It represents the net gain made by the nation, a gain in the actual wealth which is the result of the right use of land, labor and capital in all forms. By "right" use of the factors is meant that use which brings about efficient production of wealth together with a consumption of this new wealth which is also productive and not wasteful.

As economists differ in their definitions of wealth, so statisticians differ in their selection of the basis upon which to draw this line. For both the economist and statistician the most interesting and most

*Moreover, persons using different scales would obtain similar plots. Although their definite figures for each week or month would differ, yet the relation of one week to another should be identical.

satisfactory subjects for study are the census reports on the growth of manufactures, farm values, mineral products, lumber cut, population, etc., but for the business man it is necessary to select another indicator of this growth because of the long periods of time elapsing between two census years. After considerable study of the different subjects, it seems clear that the subject most successful as an *indicator*, from this practical point of view, is the volume of bank clearings for the country, excluding New York. (New York is excluded because its clearings represent so large a proportion of the entire figure that they hide the true industrial conditions shown by the remaining cities.)

It is necessary to take bank clearings as an indicator only, and to check conclusions based upon it at the end of each year by all the important barometers of wealth which report annually, and again at the end of each cycle, as shown by the areas of the Composite Plot. Therefore, on our Composite Plot, the line X-Y is now drawn so as to make the areas equal, with special attention to the cycles. These cycles begin with one period of improvement and pass successively through improvement, prosperity, decline and depression.

Whenever a distinct cycle appears to have been completed and statistics have been received regarding its course, the line will be again revised, the object always being to keep its slope true to conditions of actual net growth, in order that the amount of area consumed above or below the line may always be known as accurately as possible.

Based on the economic theory that "action and reaction are equal when the total force is considered," we can only have above the normal line of growth an area approximately equal to the area below the normal line of growth. The solid red line represents the average price of certain stocks during the past seven years and the dotted red line, the average yield of bonds. Although during these years the red line has discounted the black area, yet this cannot be depended upon, as previous to 1903, there were many instances when the black area rose and fell first. Therefore, the only safe method is to study both of these together, giving the most weight to the black plots. Moreover, it should be remembered that the areas usually refer only to periods in our *minor* cycles and not to the major cycles extending over about twenty years. So that we may be in a *prosperous* period of a *minor* cycle and still be in a *declining* period of a *major* cycle.

Practically speaking, these barometer figures on surface conditions are mathematically correct, being obtained by compiling the actual figures on bank clearings, money rates, stock exchange prices, transactions, etc., with certain scales* of measure-

*This is done by having a system of scales for each of the leading subjects studied. For this work not less than twelve subjects should be studied, and not more than twenty-five. A very simple illustration of such a scale is the following, used in the case of Foreign Money Rates: An average is made of the rates of the banks of England, France, and Germany. Assuming this average to be 4%, the statistician refers to the scale to find the index figure for this 4%. In the same way it is customary to have scales for each of these subjects, thus reducing all classes of miscellaneous figures, whether Money Rates which appear as percentages, Bank Clearings which appear in dollars, or Crops which appear in bushels, to one common scale. Of course for certain subjects, such as Bank Clearings and Railroad Earnings, which vary with different seasons of the year, it is necessary to have twelve different scales, one for each month; but this is simply a matter of detail.

ment and averaging the final results. These figures, therefore, are not a matter of opinion and any two persons using the same scale would arrive at the same conclusion.

In the case of the barometer figures for complete prosperity conditions, the method is different. Although the basic figures are definitely derived from a study of the past, the result may often be modified in accordance with other data and the opinions of merchants, investors or bankers making the de-

After working out all of the mass of figures, those subjects that especially relate to *mercantile* conditions are reduced to one independent barometer figure for mercantile conditions; which is simply done by adding up the individual scale figures for each of said subjects and dividing by the number of subjects. In the same way an independent barometer figure is worked out for *monetary* conditions, based on the scale figures for subjects especially related to monetary conditions. In the same way a third independent barometer figure is worked out for the remaining subjects, including those especially relating to *investment* conditions. After these three independent barometer figures had been obtained on mercantile, monetary, and investment conditions respectively, these three independent barometer figures are added and divided by three, thus giving a final summary barometer figure, which is the figure plotted to ascertain at any time the area consumed on a summary plot.

The writer started his scale with zero as representing the conditions existing in 1902–4 directly before and after the panic of 1903, and with such a scale, the high during the year 1910 was considered as about 70. There is, however, no reason why his scale should be the only proper scale, as other students of fundamental statistics have started with scales where zero represented conditions ten or more years ago. In such cases, their high for 1910 would probably be in the vicinity of 150. In reality it makes little difference what the definite scale figure is, provided the base is submitted therewith to use for comparison purposes; for it is a fact that if a number of different statisticians, with different scales which started at different times, should plot their summary figures, all the plots would look alike and the relation of the different areas above and below the average lines would be the same. In other words, different men with different scales would obtain different summary barometer figures for a *definite date;* but the *relation* between their figures would be the same always, and this is the only vital and important feature involved.

For this reason bankers, merchants and investors are justified in using the barometer figures worked out by a central agency and thus avoiding the difficulty and expense involved in working out such figures for themselves. Moreover, as such a central agency continually plots these summary barometer figures, to-day it is only necessary for the up-to-date business man to refer to the plot furnished by the central agency and keep in absolute touch with the area being consumed on the present cycle. He then can independently forecast for himself: (1) In what period we are to-day; (2) The duration of the present period; (3) Whether the next period will be a period of prosperity, a period of depression, or an intermediate period. Is not this information about all the able banker, merchant or investor needs?

ductions. Personally the writer does not believe in using any figure for "normal, prosperity" or complete prosperity conditions.

Although the main use of the barometer figures is to plot the "area" mentioned earlier in this chapter, these figures are also interesting for other purposes. If, for instance, during a period of depression the final barometer figures for a long period of weeks show a continuous but slow increase, the country is usually facing improved conditions, however poor business may appear to the average merchant. On the other hand, during a period of prosperity, if the barometer figure for surface conditions continues to abnormally increase, there is liable to be a change for the worse at any time.

The fundamental principle to be remembered, however, concerning the Area Theory is as follows: If X-Y truly represents the normal growth of the nation, and if the black areas truly represent the actual growth, then these areas should balance.

Monthly Interpretations

But in addition to collecting figures to deduce barometer figures therefrom, some merchants and bankers have the monthly figures on each of the twenty-five or more subjects mentioned above, interpreted* each month for what they signify.

*When interpreting the original figures in accordance with the rules above suggested (the second step outlined in the early part of this chapter), the following method is used. A record of the monthly figures on the twenty-five subjects, properly arranged so that they may be quickly compared, is kept before one, in tabulated form, together with the figures by years, for a number of years back. Such sheets, and also sheets showing

Such interpretations are made in accordance with the rules given in Chapters VI, VII and VIII, and show how many subjects signify a "Continued Improvement," how many signify "No Improvement" and how many signify "No Change." Figures on the majority of these twenty-five subjects can be obtained not oftener than monthly, and therefore final totals need be studied in detail but once each month. If there has been a normal growth or change, — sometimes a favorable showing requires an increase or sometimes a decrease, — the figures on a given subject are considered as signifying satisfactory conditions; but if a growth or a change is not normal, the figures are considered as showing unsatisfactory conditions. In other words, satisfactory conditions require a *normal* change and figures of much less than normal or much more than normal are considered unsatisfactory.

The industrial organization of the country is similar to the physical organization of the human body. The individual normally should have a

statistics of the same subjects by years from 1860 to date, may now be obtained from a central agency, which agency keeps the sheets and tables constantly revised so that when a new sheet is obtained it is only necessary to throw the old sheet away and substitute the new sheet in its place. On the new sheets appear all the figures that appear on former sheets and in addition the new figures which have been received during the preceding week.

In addition, however, to having the figures in such sheet form (thus always enabling the banker, merchant or investor to have before him a bird's-eye view of the situation), it is also desirable to have the definite figures for each month with a comparison with figures for the same month of the previous year also printed or written on a separate sheet. This shows one at a glance whether the new figures for the current month on each subject show an increase or a decrease. As soon as this is ascertained one may refer to the rules and know what this increase or decrease signifies. As each subject is interpreted in this way, the different interpretations should be recorded and a final summary made. This summary should show how many of the twenty-five subjects signify continued improvement; how many signify no improvement; how many signify caution, and how many signify no change.

As this work is purely mechanical, there is no reason why bankers, mer-

certain appetite and should require a normal amount of food. The normal appetite increases from childhood to youth, and from youth to maturity; but its relation to health is the same. So long as a man regularly eats a normal amount, he continues to increase in strength and vitality; but if he overeats, or is underfed, he ceases to gain strength, his efficiency is reduced, and he becomes subject to attacks of disease. As therefore the maintenance of good health requires a certain *normal* balance, so do the prosperous conditions of industrial life. This evidently does not mean fixed conditions, as in a rapidly growing country like America, the figures to be normal *must increase in proportion to the increase in the wealth, population and activity of the country.* Great increases or great decreases are distinctly not normal and are always significant of a marked change; a change for the better in time of depression, when present conditions are very unsatisfactory; or a change for the worse during a period of prosperity, when present conditions are apparently very satisfactory.

As an illustration, however, of how the leading financial papers fail to recognize this principle, the

chants and investors cannot also depend upon a central agency for preparing these comparisons in the form of a monthly report. When this is done the work is tremendously simplified for any student of fundamental statistics. Therefore not only may arrangements be made for collecting the original figures, as they appear from day to day, and as they have appeared in the past, and for having them reduced to barometer figures and plotted — the first feature of the work; but arrangements can also be made to have them tabulated in sheet form and once a month compared as to their increases and decreases — the second feature of the work, namely, the interpretation according to the rules mentioned. This, therefore, eliminates all mechanical work on the part of any bank, firm or individual, and it is only necessary for one to note the summary plot once a week, the interpretations once a month, and take a general view of the tables whenever convenient. Upon so doing one automatically, of himself, makes a forecast of future mercantile, monetary or investment conditions.

following from an editorial of October 9, 1909, in what the writer considers America's most valuable financial weekly, is of interest:

"It seems inconceivable folly to argue in favor of further meddling. If a man should protest, with sorrowful anxiety, that his bodily vigor is so great that he is really in fear about his future, and should forthwith set to ransacking the market for proprietary nostrums to keep himself regulated, he would be rated wanting in good sense. But what is a nation except a mass of persons, *and is prosperity a matter to be anxious about or to be afraid of.* The very question sounds absurd. Nevertheless, in a speech, on entering California this week, our worthy President, after sounding the pæan of coming prosperity as loudly as language could do it, added that the difficulty is that whenever everybody is prosperous, when everybody is comfortable, then is the time when our old friend Satan steps in and helps along the evil cause; then is the time when we are apt to be inert and enjoy the things we have, without looking forward in the future and seeing that the evils will grow and ultimately swamp us."

Of course, our President was right, and our esteemed contemporary wrong. Great prosperity *is* a matter to be feared. When a man or a nation is in a *normal* condition, there may be nothing to be anxious about; but when a man or a nation *overworks* or "lives too high," or in any way becomes strained or careless, trouble is sure to follow.

This same principle is illustrated in the case of Interest Rates.* For instance, when interest rates gradually increase and surplus reserves gradually decrease after a period of depression, the combination is significant of improved present conditions; when commercial paper is discounted at 3½%, one may always be sure that the country is not prosperous, that many factories are idle and many men out of work. As the mills resume operation and as business becomes more active, money rates increase and surplus reserves decrease, all of which increase is shown by higher barometer figures for surface

*See the very valuable book on this subject by Professor Irving Fisher of Yale University: The Rate of Interest; The Macmillan Co.

monetary conditions. Then, as money rates increase too much, and the surplus reserves decrease to very low figures, the change is significant of unsatisfactory future conditions. In other words, when money rates are *below* normal it shows business is *dull*, but may be better; and when money rates are *above* normal, it shows that business is good, but will soon be worse.

Of course if this data were obtained by each investor, merchant or banking house independently, it would require a force of clerks to collect, analyze and sort the mass of figures; but as the data may now be obtained from a central agency, all of the drudgery is eliminated. The investor or merchant may simply note the barometer figures as they are made up each week, thus keeping in constant touch with surface conditions; and by reference to the monthly figures once a month, these surface conditions may then be interpreted in accordance with the rules mentioned. Moreover, the average banker, merchant and investor is satisfied to depend upon the barometer figures and reports furnished by this central agency, and not to make a personal examination more than once or twice a year, depending rather upon a weekly perusal of the Composite Plot. But whatever the time or money expended, all merchants and investors always obtain great pleasure from such studies.

The Composite Plot and the data from which it is compiled not only give a clear idea of the present conditions, but also of what may be expected in the future. If during a period of depression, uncer-

tainty and discouragement, the Composite Plot and individual charts show distinctly that the country is about to enter a period of prosperity, investors buy stocks, merchants buy goods, and bankers extend loans. The result is that, when prosperity returns, such investors and merchants find that they have purchased very much below the prevailing prices and obtain many times the profit that they otherwise would.

During a period of great prosperity and extravagance, when everybody is buying goods or securities and there is a general increase of indebtedness, if this Composite Plot and the other charts foretell a change for the worse, such investors sell their securities for cash, such merchants reduce their merchandise and outstanding credits, and such bankers reduce loans or place a large part of them "on call." These statistics, therefore, both serve as an insurance against loss and also enable men to be prepared to take advantage of the very low prices which are sure to prevail during the formation of an area of depression below the line of normal growth.

CHAPTER V

CONDITIONS AND EVENTS SINCE 1860

1860

THOUGH this year ended in a panic, the comparatively favorable conditions existing during the first six or eight months account for the fact that many of its figures are about normal. New railroad construction amounted to 1,837 miles; while 821,223 tons of pig-iron were produced at an average price of $22.70 per ton. Bank clearings amounted to more than $7,231,000,000. The number of failures was 3,676 with total liabilities of $79,807,000. Wages in general were high; and 150,237 immigrants entered the country.

With money rates high throughout the year, conditions became particularly strained in November, when for the first time in the history of the country, clearing house certificates were issued. The total volume of foreign trade amounted to more than $687,000,000 with a considerably unfavorable balance. The index of English commodity prices for the year was 2,692.

On the stock exchange, prices were generally low. Certain conservative stocks rose from 59 in the spring to 93 in the fall. The production of wheat amounted to about 173,000,000 bushels at $1.37 per bushel; that of corn amounted to about 838,700,000 bushels at 73 cents per bushel; and that of cotton amounted to 3,849,469 bales at 11 cents per lb. Panic conditions began in November with the election of

Lincoln to the Presidency and the subsequent action of the Southern States towards secession.

1861

The depression existing at the end of 1860 continued through the first six months of this year. Only 660 miles of new railroad were constructed; and only 653,164 tons of pig-iron were produced at an average price of $20.26 per ton. Bank clearings decreased to the very low figure of $5,915,742,000. Failures amounted to 6,993 in number, with liabilities of $207,210,000. Wages continued high, while only 89,724 immigrants came into the country.

Money conditions were marked by high rates which dropped somewhat with the improving conditions of the last six months of the year, by a further issue of clearing house certificates, and by a suspension of specie payments. The total volume of foreign trade decreased to about $500,000,000. The index of English prices for the year was 2,727.

Prices on the stock market were low throughout the year. Certain stocks, selling at 84 early in the year dropped to 62 in the fall. The production of wheat and corn decreased considerably. The number of bales of cotton amounted to 4,500,000. Wheat sold at $1.30, corn at 60 cents, and cotton at 13 cents. In March the Morrill Tariff Act was passed, levying heavier duties and giving an impetus to mercantile and manufacturing conditions. Thus, in spite of the beginning of the Civil War, conditions improved steadily after the middle of the year.

1862

This year shows a marked improvement over 1861. While only 834 miles of new railroad were constructed, 703,270 tons of pig-iron were produced at an increased price of $23.92. Bank clearings rose to $6,871,443,000. Failures amounted to only 1,652 in number, with $23,049,000 of liabilities, and 89,000 immigrants entered the country.

In money matters, currency was considerably inflated by paper issues and money rates were lower. The progress toward improved conditions was marked by a low volume of foreign trade amounting to about $380,000,000. The index of English commodity prices was 2,878.

Transactions in the stock market increased and prices rose steadily. Certain stocks sold for 71 in the spring and for 107 in the fall. Railroads prospered. Among the crops, cotton production amounted to 1,600,000 bales at 31 cents per lb.; while wheat sold at $1.28 a bushel and corn at 60 cents a bushel. The most significant political feature of the year was the development of the policy of a heavy war tariff for revenue purposes.

1863

This was a year of prosperity. There were 1,050 miles of new railroad constructed, and 846,000 tons of iron produced at about $35 per ton. The bank clearings increased to about $14,800,000,000, and failures decreased to 495, with liabilities of only $7,900,000. Immigration amounted to 174,000.

Money conditions were temporarily aided by

measures of Congress providing for a further currency inflation, and gold exportation was increased considerably. Foreign trade increased to over $447,000,000. The English index of prices was 3,492 as against 2,878 for the preceding year.

On the stock exchange a fever of speculation brought about a considerable increase in transactions and an advance in prices. Certain stocks rose from 106 in the spring to 153 in the fall. Wheat sold for $1.16 and corn for 84 cents; 450,000 bales of cotton were produced at an average price of 67 cents per lb. Railroad earnings increased and the first horse car line was constructed in New York. Congress passed the Internal Revenue Act to increase the war revenue. In general the Northern troops were successful.

1864

Prosperity conditions, at full height in the beginning of the year, showed marked evidences of instability in the last months. Only 738 miles of new road were constructed, while pig-iron production amounted to 1,014,282 tons, and the price rose to the phenomenal point of $59 per ton. Bank clearings nearly doubled those of the preceding year amounting to more than $24,000,000,000. Failures increased slightly to 520 in number with liabilities of $8,579,000, while immigration amounted to about 175,000.

Inflation of currency and exportations of gold continued to an abnormal degree and money rates rose. Foreign trade increased to over $475,000,000. The index of English prices was 3,787.

Before the end of the year prospects, as indicated by these abnormal figures and conditions strained by the corner in connection with the stock of the Harlem River R.R., appeared so unsatisfactory that many began to sell their stocks. Average prices of securities for the year were higher than in 1863. Certain stocks, selling at about 150 in January, rose to 177 in April, fell to 141 in October and rose again to 155 in December. Cotton production amounted to about 300,000 bales selling at the extraordinary price of $1.00 per lb. Wheat sold at $2.00 per bushel and corn at $1.44 per bushel. The general condition of inflation was marked further by high wages and increased dividend payments by railroads. In politics, Lincoln was re-elected to the Presidency.

1865

Conditions were unstable and unsatisfactory during this year. While 1,177 miles of new road were constructed, the production of pig-iron decreased sharply to 831,770 tons, selling at $46 a ton. Bank clearings increased slightly to $26,000,000,000. Failures numbered 530 with liabilities of $17,625,000. The number of immigrants increased to 247,453.

Money rates remained high, but did not increase. Paper money issues were somewhat contracted and reserves were increased. Foreign trade fell off to about $400,000,000, and the index of English commodity prices dropped to 3,575.

On the stock exchange the price of several stocks fell from about 160 in the spring to 125 later in the

year. Railroad earnings were erratic in behavior. The production of cotton jumped up to 2,269,316 bales, selling at 83 cents per lb.; while wheat and corn were at $2.04 and $1.26 per bushel respectively. Conditions steadily declining during the first of the year, improved somewhat with the surrender of Lee, but became unsteady again with the death of Lincoln. The year was, on the whole, one of panic.

1866

Depression followed the panic of the previous year. 1,716 miles of new railroad were constructed, while 1,205,663 tons of pig-iron were produced at a price of $46.84 per ton. Bank clearings increased slightly to $28,717,000,000. Business failures increased 300% amounting to 1,500 in number, with liabilities of $53,783,000. Immigrants coming to the country amounted to 314,917.

Banking conditions were rather more settled, and money became easier with the close of the war and the slight improvement in fundamental conditions. Foreign trade increased to more than $780,000,000 and exports of gold somewhat decreased. Commodity prices in general were low. The English index figure was 3,564.

In the stock market the decline in prices of the preceding year continued. The average for certain stocks went as low as 99 and as high as 128. The first official crop report of the national government gave a production of about 152,000,000 bushels of wheat sold at $2.20; 867,946,000 bushels of corn sold at 90 cents per bushel, and 2,097,254 bales of cotton

sold at 43 cents per lb. Though, as shown by these figures, fundamental conditions appeared to be somewhat improving, still the surface conditions especially evident in the action of the stock market were decidedly depressed.

1867

During this year, though depression still existed, improvement was plainly visible. There were 2,249 miles of new railroad constructed, and 1,305,023 tons of pig-iron produced at $44.08 per ton. Bank clearings amounted to $28,675,159,000 and failures increased to 2,780 with liabilities of $97,000,000. Immigration amounted to 310,965.

Monetary conditions showed a slight improvement over those of the previous year. Gold exportations decreased and rates were somewhat lower. Foreign trade amounted to $681,615,000 in volume with a balance of $61,337,308 of imports. The English commodity price index was 3,024.

On the stock market the price of the seven stocks ranged from 100 to 122. Railroad earnings improved. 2,519,554 bales of cotton sold at 31 cents lb.; 768,320,000 bushels of corn sold at $1.21 per bushel; and 212,441,400 bushels of wheat, a considerable increase over the previous year, sold at $3.33 per bushel. Confidence was strengthened by the purchase of Alaska and by the opening of new territories in anticipation of the coming prosperity.

1868

This was a year of marked prosperity. New railroad construction increased to 2,979 miles; and

1,431,250 tons of iron were produced at $39.25 per ton. Bank clearings amounted to $28,484,288,000. The number of failures decreased to 2,608 with total liabilities of $63,694,000; and the number of immigrants decreased to 138,840.

Money rates were slightly higher. The excess of gold exports amounted to $51,217,027, or five millions more than that of the previous year. The volume of foreign trade amounted to $649,328,000, with a balance in favor of imports amounting to $87,000,000. The English commodity price index was 2,682.

The market became active. Certain stocks rose from 108 to 144. While the cotton crop was much the same as that of the previous year, the wheat crop increased to 224,036,000 bushels selling at $2.43 per bushel; and the corn crop increased to 906,527,000 bushels selling at $1.23 per bushel. While general conditions were thus improving, the prices of stocks and the conditions of the stock market were rendered uncertain by the great contest being waged between Drew and Vanderbilt for control of the Erie, in which the former won virtually by loading an issue of convertible bonds upon the Erie, and then immediately converting the bonds. This and certain other unfortunate incidents left the fundamental conditions of the stock market at the end of the year quite unsatisfactory.

1869

This was the year of the "Black Friday" panic, a panic of the stock market which, in spite of pros-

perity in other branches of business, served to render conditions unsound. Miles of new railroad amounted to 4,615, and 1,711,287 tons of pig-iron were produced at $40.61 per ton. Bank clearings increased to $37,407,028,000. Failures numbered 2,799 with liabilities increased to $75,054,000. The number of immigrants increased to 352,768.

The money market was affected somewhat by the manipulations of the stock market. Money rates though firm were high. The excess of gold exportations decreased to only $17,990,000, while the balance of trade in favor of imports increased to $101,079,906. The English commodity price index was 2,666.

On the market, the stocks, at 144 in the early summer, fell to 114 in the fall. The Union Pacific was completed and railroad earnings in general were good. In crops there were 3,000,000 bales of cotton at $0.29 per lb.; 874,000,000 bushels of corn at $1.02, and 287,745,626 bushels of wheat at $1.50. With the general conditions of prosperity came a great westward movement. As was the case, however, with the Harlem corner in 1864, the "Black Friday" panic of this year seemed to create a wound that would not heal, so that although business continued to increase and surface conditions appeared to be more favorable, fundamental conditions grew more and more unsatisfactory every day. The leading bankers and merchants who were studying these underlying conditions and watching the relation between actual and normal figures, disposed of their securities and reduced their merchandise.

1870

Prosperity continued through this year in spite of the unsatisfactory monetary conditions at the close of 1869. There were 6,078 miles of new road constructed, and 1,665,000 tons of iron produced at $33.23 per ton. Bank clearings, to be sure, declined to $27,804,000,000; and failures increased in number to 3,546; but wages were high and immigration amounted to 387,000.

In the money market, rates remained firm, although money was easier than it had been in the preceding year. The excess of gold exports amounted to $42,673,184, while the excess of imports of merchandise decreased to $57,546,000, and the volume of foreign trade was $864,718,000. The English commodity price index was 2,689.

The stock market, though steady, dropped during the year, so that the stocks selling for 120 in the first part of the year were selling at about 102 later. Wheat was somewhat decreased in both price and production as compared with 1869; but a phenomenal corn crop, amounting to 1,094,255,000 bushels, sold at $1.02; and the cotton crop increased to 4,352,317 bales, selling at $0.239 per lb. The year as a whole was looked upon by the business men as prosperous.

1871

In this year the miles of new railroad amounted to 7,379, while 1,706,793 tons of iron were produced at $35 a ton. Bank clearings rose to $29,300,000,000. The number of failures fell to only 2,915,

with liabilities of $85,000,000. The number of immigrants during the year was 321,350.

Monetary matters showed the effects of the weakening underlying conditions. Money was not as easy as in the preceding year. The excess of gold exports amounted to $39,074,000; while the volume of foreign trade amounted to $1,033,463,000, with an excess of imports of $112,759,000. The English commodity price index for the year was 2,590.

On the stock exchange stocks rose during the year from 103 to 117. Railroad gross earnings per mile were $9,040 an unduly high figure. Crops were not as good as those of the preceding year. Cotton amounted to less than 3,000,000 bales selling at $1.69, corn to 991,898,000 bushels selling at $0.77, and wheat to 230,722,400 bushels selling at $1.60. Added to the decline in crops were other factors which hastened panic conditions which were soon to follow. The Chicago fire, coming in this year, shook confidence and helped to increase money rates. In political circles much corruption sprang up; and the Tweed Ring exposures produced a still further disquietude and lack of confidence.

1872

The general decline which had begun in 1871 was in this year somewhat checked by a number of causes. New construction declined to the more nearly normal figure of 5,878 miles; and the production of iron increased to 2,548,000 tons selling at about $49. This great increase of iron production

was probably due to the perfection of commercial methods of making Bessemer and open hearth steel, greatly increasing the demand for all grades of pig-iron, but especially the lower grades. Bank clearings increased to $33,844,000,000. Failures numbered 4,000 with $121,000,000 of liabilities. More than 400,000 immigrants came to this country.

Money conditions were not altogether satisfactory. The banks were carrying a very small surplus reserve. The excess of exports of gold increased to more than $57,000,000. The volume of foreign trade amounted to $1,124,802,000, with an excess of imports amounting to $187,000,000. The English commodity price index was 2,835.

Speculation was active on the stock exchange. Certain stocks dropped from about 110 to about 97. Gross railroad earnings per mile fell to $8,116. Crops were rather better than in the preceding year, but money rates were higher. Money was not easy, wages were high and strikes were disturbing confidence. In politics a revision of the tariff and a presidential election made conditions still more uncertain. Although this was a year of apparent prosperity, students of fundamental statistics, who had not already done so, now saw that the area of prosperity was practically consumed, and immediately liquidated.

1873

The Boston Fire of November, 1872, precipitated the panic which overwhelmed the business world in this year. New construction declined to 4,097 miles, though iron production increased slightly to

2,560,000 tons and sold at $42.79 a ton. Bank clearings rose to $35,461,052,000. Business failures increased to 5,000, with liabilities over $100,000,000 more than those of the year before. More than 450,000 immigrants came into the country.

Monetary matters were so unsatisfactory, and bank failures were so serious that clearing house certificates had to be issued. The excess of gold exports decreased from $57,000,000 to less than $5,000,000; while in volume foreign trade increased to $1,163,000,000 and in excess of imports it decreased to $27,000,000. The English commodity price index rose to 2,947.

On the stock exchange panic conditions were even more evident than elsewhere. Stocks fell as low as 75. Gross railroad earnings declined to $7,947 per mile. Crops were fair. The cotton production amounted to 4,000,000 bales and sold at $.20 a lb. Corn production amounted to 932,000,000 bushels, and wheat to 281,000,000 bushels; and sold at $.63 and $1.76 respectively. Money rates were very high, being 7% in New York for time loans. The Pacific Railroads, opened in the year 1869, were largely owned in New England and the promoters of both State Street and Wall Street had been borrowing money heavily of the insurance companies. These loans the insurance companies were now obliged to call. Moreover, the preceding year was the culmination of the Erie tragedy when James Fiske was shot and Erie stocks were struck from the New York Stock Exchange. Money had been very high in 1872 and men of affairs clearly

saw at the beginning of 1873 that it would be impossible to continue business under existing conditions and that a house cleaning would be necessary. Consequently, when crop reports continued to point to small harvests, which later turned out to be about 100,000,000 bushels less than the preceding year, and when the number of failures showed a distinct increase, things were allowed to seek their own level. That is, the large bankers and merchants withdrew their support and business began to decrease immediately.

Conditions at this time are interesting to study as they show clearly the three steps in the progress of a decline and the precipitation of a crisis: *first*, the large bankers and merchants sell their securities and reduce their merchandise, while the public is very optimistic; *second*, after some special event has taken place, in this case the Boston fire, which convinces these bankers and great merchants that the time has come for a house cleaning, they withdraw their support, although the people are still bullish and the ordinary store-keeper is borrowing money to buy goods; and *third* comes the panic itself, which in the case of the great panic of 1873 caused the failure of Jay Cooke & Co., and many other firms. This panic made imperative the closing of the New York Stock Exchange from September 18 to the 30th. This third step is the beginning of the decline in the eyes of the ordinary merchant, manufacturer and laborer. And in reality, until this third phase comes, there is no decline in surface conditions, although fundamental con-

ditions have been unsatisfactory for a year or more, during which time bankers and merchants who study fundamental conditions have been preparing for the depression.

1874

In this year panic passed into depression. New railroad construction declined to 2,117 miles; and the production of pig-iron fell off somewhat, to 2,400,000 tons selling at only $30. Bank clearings declined to $22,900,000,000. Failures increased in number to 5,830; and immigration declined to 300,000 persons.

Surplus reserves in the banks increased. Gold exports showed an excess of $35,700,000 over imports; and of a total volume of foreign trade amounting to $1,131,988,000, exports exceeded imports by $7,700,000. The English index figure for commodity prices was 2,891.

Conservative stocks rose from the 75 of the preceding year to 100 in the summer of this year, only to all back to 93 in December. Gross railroad earnings per mile fell off to $7,513. Many roads were in the hands of receivers, and railway affairs were shaken by adverse legislation. Crops declined to a total for corn and wheat of 1,158,251,200 bushels. Granger laws, political investigations and the prosecution of certain prominent promoters, tended to place a check on the growth of public confidence.

1875

Depression continued throughout this year, and in fact through the succeeding four years. Only 1,711

miles of railroad were constructed, the smallest number in ten years; and iron production dropped to 2,000,000 tons with the price at $25 a ton. Bank clearings showed a slight increase, amounting to $25,000,000,000. Failures, however, increased in number to 7,740 and in liabilities to $201,000,000. Immigration declined still further to 227,000.

In monetary matters, with the excess of gold exports at $39,000,000 the balance of trade was again "in our favor" to the amount of $7,794,000 though the volume of trade had declined to $1,014,100,000. The index figure for English commodity prices was 2,778.

On the stock exchange stocks were irregular and declining in price. Stocks averaged 100 high and 87 low. Gross railroad earnings amounted to $7,010 per mile, showing a considerable falling off, and both the Erie and the Wabash defaulted interest on their bonds. Money continued high and confidence was greatly upset. The crops, however, were much better than in the preceding year. Cotton production amounted to 4,632,313 bales at $.154 per lb. Corn amounted to 1,321,069,000 bushels at $.84; and wheat amounted to 292,136,000 bushels at $1.33. This fact of better crops together with the business depression, relieved somewhat the money market, and rates gradually decreased.

1876

In this year the depression reached its low ebb. Liquidation was very thorough. New construc-

tion, to be sure, rose somewhat to 2,712 miles; but iron production decreased to 1,869,000 tons selling at $22.19 a ton. Bank clearings declined to only $21,597,000,000. Failures rose to 9,092 in number with liabilities of $191,117,786; and immigration declined to 169,986.

Owing to the thorough liquidation, money was becoming easier. Only $7,555,000 of gold was exported in excess of imports; and in foreign trade the decline in volume to $1,001,000,000 was due to a decline in imports which raised the excess of exports to $163,319,000. The English commodity price index was 2,711.

The tendency of the stock market was downward. Stocks, selling at 100 in the spring, dropped to 62 in the winter. Railroad earnings continued their decline to a gross per mile of $6,764. Crops were again about the same as the year before in yield, with prices slightly lower. Money rates in New York on time loans had declined to 5%; and abroad, to 3¼%. In politics the Presidential election and the Hayes-Tilden dispute disturbed confidence. In fact, the public had become very much discouraged. All who had been connected with stocks had lost their money, prominent bankers and merchants had failed, railroads were carrying traffic at a loss, mills and factories were idle. Money rates were less than at any time since 1860.

These facts showed that the pendulum had swung too far. But knowing that business conditions are like the pendulum which, after wide swings in either direction, tends to resume a normal position in re-

sponse to the laws of gravity, investors and merchants who were studying the conditions and comparing figures saw clearly that this was the year in which to buy stocks, make plans for further extensions, and prepare for the period of improved conditions which was bound to come. In fact, the stocks which these investors sold at an average of 160 a share in 1869, many now purchased at an average of 73 a share, while others who waited until the beginning of the following year purchased at an average price of 54.

*1877

Though the depression continued, improvement in underlying conditions was well under way. New railroad construction amounted to 2,274 miles; and pig-iron production increased to 2,066,000 tons selling at $18.92. Failures remained about the same in number as in the preceding year. Strikes were common owing to reductions in wages, and immigration continued its decline in numbers to 141,000.

In monetary matters the excess of gold exports decreased to $7,352,000; while the volume of foreign trade increased slightly, and the excess of exports decreased to $140,000,000. Commodity prices, as indicated by the Economist's index figure, declined to 2,715.

On the stock exchange,* stocks dropped during the spring and summer to 54, but began to rise in the fall, selling at 75 in December. Gross rail-

*See page 33.

road earnings per mile declined to $6,380; and net per mile to $2,307. Crops were good: 4,773,865 bales of cotton sold at $.118 per lb.; 1,342,000,000 bushels of corn sold at $.59 per bushel; and 364,-194,000 bushels of wheat sold at $1.63 per bushel. In politics, the silver agitation, as usual with all currency disputes, tended to retard improvement. But though the country was in extreme depression at the beginning of the year, still, with the good crops, railroad earnings and confidence improved, and money rates gradually decreasing, Christmas, 1877, was a time of thanksgiving for many who had escaped being crushed during the preceding five years.

1878

In spite of the signs of improvement in the year preceding, this year, though continuing the improvement, was still in depression. New construction increased to 2,665 miles; and iron production rose to 2,301,000 tons with the price per ton at $17.67. Bank clearings declined slightly to $22,-508,000,000. Failures increased in number to 10,478, and in liabilities to $234,000,000. Immigration declined still further to the low point of 138,000.

Monetary affairs reflected the improvement which was under way. The volume of foreign trade remained the same as in the preceding year; but the excess of exports increased to $305,000,000, and the gold movements showed an excess of imports amounting to $1,822,000. The London Economist's commodity figure of 2,554 indicated the

general tendency of commodity prices to remain low.

The stock market was still unsteady and inactive. Only 39,875,000 shares were traded on the New York Exchange. Stocks rose from 69 in the spring to 82 in July. Net railroad earnings per mile, however, showed an increase to $2,375. The crops of corn and cotton were about the same as those of the preceding year; while the wheat crop increased to 420,000,000 bushels and dropped in price to $1.24 per bushel. In politics, the silver dispute was continued over the Bland-Allison bill; and certain changes were made in the Bankruptcy Law. On the whole, the confidence of the public and of the business world was returning.

1879

During this year, depression passed into prosperity. New construction jumped to 4,809 miles; and iron production increased to 2,741,000 tons, selling at $21.72. Bank clearings increased to $25,000,000,000. Failures decreased remarkably to 6,658 in number, and only $98,149,000 in liabilities. Immigration increased somewhat to 177,800 in number.

In the field of money, the volume of foreign trade increased to $1,278,762,000, the excess of exports amounted to $251,557,000, and the excess of gold imports to $74,652,000. Commodity prices were still low. The English index figure for the year was 2,225.

On the stock market, the stocks rallied from

69 to 104, and transactions nearly doubled. Net railroad earnings increased to $2,610 per mile. Crops were as follows: cotton, 5,755,000 bales selling at $.108 per lb.; corn, 1,754,000,000 bushels selling at $.47 per bushel; and wheat 459,000,000 bushels selling at $1.24 per bushel. In New York, time loan money rates were at 5%, and in Europe, at 3%. In accordance with the Specie Payments Act of 1875, specie payments were again resumed in this year. In fact, the entire year witnessed an improvement so marked that at the end of the twelve months, mills were in full operation, all labor was employed, and the entire country was in a very prosperous condition.

1880

This was the first of a series of four years of marked prosperity. New railroad construction increased to 6,706 miles, and pig-iron production amounted to almost 4,000,000 tons selling at $28 a ton. Bank clearings jumped to $37,000,000,000. Failures decreased still further to only 4,735 in number or .63 of 1% of all the firms in business, with one exception the lowest point on record. The number of immigrant arrivals increased to 457,000.

In money matters, the volume of foreign trade increased to $1,586,490,000, and the balance "in favor of" the United States amounted to $192,876,000. Excess of gold imports amounted to $70,582,000. Commodity prices improved as illustrated by the English index figure of 2,538. The average surplus reserve of the New York banks declined from $6,800,000 in 1879 to $6,100,000 in this year.

On the New York Stock Exchange, transactions increased from 72,000,000 to almost 98,000,000 shares. The stocks rose from 99 to 123. Net railroad earnings increased to $3,029 per mile. Crops were excellent; 6,606,000 bales of cotton selling at $.115 per lb.; 1,717,434,000 bushels of corn selling at $.55 per bushel and 498,000,000 bushels of wheat selling at $1.30 per bushel. Confidence reigned throughout the country; consolidations were in progress; new industries were started; new railroads were projected; and every one was elated over the fact that the country was once more prosperous. Moreover, Garfield the candidate for the Republican party, always representative of business interests, was elected President in November. Money was constantly in more demand, and the rates were gradually increasing.

1881

Although the general public considered this year one of great prosperity, there were certain events which caused the barometers of fundamental conditions to begin to decline, and before the year closed, said fundamental conditions were unsatisfactory. Thus, new construction rose to the abnormal figure of 9,846 miles; while production of pig-iron increased slightly and the price declined. Clearings jumped to more than $48,000,000,000. Failures increased in number to 5,582. The number of immigrant arrivals amounted to 669,431.

Money conditions, too, were not altogether satisfactory. The volume of foreign trade decreased slightly, and the balance "in favor of"

the country decreased as did the excess of gold imports. In the New York banks the surplus reserve fell to $4,500,000. Commodity prices were somewhat lower as indicated by the English index figure of 2,376.

Transactions on the New York Stock Exchange amounted to more than 114,000,000 shares. Stocks selling at an average price of 125 in January, rose to 134 in June, and fell again to 121 in December. Railroad net earnings declined slightly to $2,928 per mile, being due in part to the Trunk Line Rate War. Money rates abroad increased to 4% and at home to 6% on time loans. The crops decreased considerably in yield, wheat and corn together amounting to less than 1,600,000,000 bushels. Tremendous stock issues were being floated, and large stock dividends were being declared. While to outsiders everything appeared to be very prosperous, yet to the careful student it was plain that conditions were not what they should be, and needed only some sudden disturbing event to start disaster, such an event as the Harlem corner in 1864 and the Boston fire in 1872. This sudden event turned out to be the shooting of President Garfield on July 2, 1881, after which event, the bankers and merchants who kept careful watch of conditions decided to sell.

1882

Fortunately for those who had not already liquidated, prosperity conditions continued in many of the important lines during this year and the

next. New railroad construction amounted to 11,569 miles, or next to the largest new mileage for any year in the history of the country; and iron production was correspondingly inflated to 4,623,323 tons, selling at $25.77 per ton. Bank clearings decreased slightly to $46,500,000,000. Failures numbered 6,738, with liabilities of $101,547,564. Immigration rose to the abnormal figure of 788,992.

Monetary matters were also uncertain. Gold movements showed a return of excess of exports amounting to more than $25,000,000; while the volume of foreign trade increased to $1,520,000,000 and the excess of exports declined to $15,138,000. The surplus reserve of the New York banks declined still lower than in 1881, to $3,500,000. The London Economist's commodity price figure for the year was 2,435.

On the New York Stock Exchange, transactions increased to 116,300,000 shares. Nine stocks fell to a low point of 113 in the early summer and rose again to 126 in August. Railroad earnings decreased to a net per mile of $2,670. Crops, however, the real redeeming feature of the year, were better than in 1881. The cotton crop of 6,950,000 bales sold at $.115 per lb. Corn amounting to 1,617,000,000 bushels, sold at $.77 and wheat, amounting to 504,000,000 bushels, sold at $1.32 per bushel. Owing chiefly to these crops, although a decline had set in, it was not perceived by the general public. As mentioned in the account of the year 1873, there are three steps in every decline; and the second, that in which the leaders

withdraw their support, had not come, for this was the year in which Jay Gould made his famous exhibit of securities. As will be seen by referring to the newspapers of that day, it was clearly understood by students of conditions that a distinct decline had begun, and Gould probably knew this as well as any man. Therefore, although he was preaching that the conditions were perfectly sound and that still greater prosperity was ahead, he himself was doubtless unloading and liquidating with all possible speed in preparation for the public withdrawal of his support later. Moreover, the banks were aiding their directors by keeping down money rates although the demand for money was very great. Students of fundamental statistics, however, could not be misled, and knowing that the area of prosperity was rapidly being consumed, prepared for trouble.

1883

Though nominally considered a year of prosperity, this was in truth a year of decline and instability of underlying conditions. New construction fell off to 6,745 miles, and iron production to 4,595,000 tons. Bank clearings in this year, for the first time published for the whole country instead of for New York alone, amounted to $51,643,495,000. Failures increased in number to 9,184 and in liabilities to $172,800,000. Immigration also showed a decline.

Money conditions were supported by a volume of foreign trade amounting to $1,480,275,000. The balance in favor of this country increased to

$108,000,000, and excess of gold imports due to gold purchases from abroad amounted to $16,000,000. The New York bank reserves were still low, being about $4,200,000. The English commodity price index fell to 2,281.

The stock market held up remarkably well, although the high prices were maintained only through manipulation and in order to allow the insiders the opportunity to liquidate. Stocks fell from 119 to 109. Railroad earnings increased slightly both in gross and net. Money rates in New York averaged 6½% and in Europe, 3½%. Crops, too, were poorer than in the preceding year, the yield of wheat and corn combined amounting to less than 2,000,000,000 bushels. On the whole, these facts, added to agitation over tariff and internal revenue questions, rendered business conditions abnormal and unsound, and clearly foretold the panic about to follow.

1884

The unsound conditions of the preceding year were reduced, in this year, to *panic* conditions by the great Ward and Grant failure on May 6, together with the failures of Henry Villard and James R. Keene. New construction declined to 3,923 miles, and iron production was reduced by about 500,000 tons. Bank clearings decreased to $44,000,000,000. Failures rose to 10,968 in number, with $226,000,000 of liabilities. Immigration also declined to 500,000 in number.

In foreign trade, both exports and imports

decreased. The balance "in favor of" this country was $120,000,000; but gold movements showed an excess of exports amounting to $12,990,000. The New York banks held a large surplus reserve of $20,800,000. Commodity prices fell as illustrated by the English index figure of 2,195.

On the stock market, artificial support being removed from money conditions, stock prices fell rapidly. Stocks sold at 113 in February, and 85 in the winter months. Net railroad earnings declined to $2,318 per mile. Crops, however, were again good, corn and wheat amounting to over 2,300,000,000 bushels. If it had not been for the good crop reports during this year, probably stocks would have declined very much further. As it was, even the election of Grover Cleveland by the Democrats in November did not seem to break the market very severely.

1885

Depression, as usual, followed the panic, in this year. Only 2,975 miles of new railroad were constructed; and iron production declined to 4,044,000 tons, selling at $18. Bank clearings declined to the low figure of $41,321,754,000. Failures were slightly lower than in 1884 both in number and in liabilities. Immigration figures declined to 395,346.

In monetary matters, the volume of foreign trade decreased to $1,274,118,000 and the balance "in favor of" the country decreased to $100,000,000. Gold movements showed an excess of imports of $12,200,000. The average surplus reserves in the New York banks rose to the enormous sum of

$48,000,000. The English commodity price index was 2,023.

The stock market was comparatively active. Stocks rose from 86 to 111. There was a considerable issue of new stocks and bonds amounting together to $567,500,000. Railroad earnings dropped to the low figure of $2,185 net per mile. Money rates in New York dropped from 6% to 5½% on time loans. The crops were rather better than in the preceding year, but prices were considerably lower. In politics, the silver agitation rather increased the general weight of depression which existed throughout the year.

1886

General depression continued in this year, though improvement was well under way before its close. New construction jumped up to 8,018 miles; while iron production increased to 5,683,000 tons, selling at $18.70. Bank clearings, too, increased to $49,000,000,000 and failures decreased somewhat both in number and in liabilities. Immigration decreased slightly to 334,203.

In the monetary field money was easier. The volume of foreign trade remained about the same; but the balance between exports and imports of both gold and commodities was much reduced. The abnormal average surplus reserve of the New York banks in 1885 was in this year reduced to $14,200,000. Commodity prices in general were the same as indicated by the English index figure of 2,023.

The New York Stock Exchange was active during

this year. Transactions amounted to more than 100,000,000 shares, and stocks rose from 106 to 118. Money rates in New York dropped to 4% and the banks began pretty generally to buy bonds. Railroad earnings improved both in gross and net; and crops were about the same as in the preceding year in yield, but somewhat lower in prices. Cotton sold for $.092 per lb., corn for $.52 per bushel and wheat for $.89 per bushel. A period of improvement had commenced, and although many small merchants were only beginning to feel the effects of the great depression, true conditions were distinctly more than normal and the pendulum was swinging too far the other way. In view of this, stocks began to rally and plans for extensions and large undertakings were again discussed. Moreover, the defeat of the various bills which were introduced into Congress for the reduction of the tariff caused a special increase of confidence among manufacturers, wholesalers and bankers. Money rates also, remaining normal, greatly encouraged new enterprises.

1887

This year ushered in a new period of prosperity. New railroad construction amounted to 12,876 miles, the largest figure in the history of the country; while pig-iron production increased to 6,417,148 tons selling at $21 a ton. Bank clearings rose to $52,000,000,000, and failures amounted in number to 9,634 or .90 of 1% of all the firms in business. Impelled by the tide of prosperity, immigration increased to 490,000.

The volume of foreign trade also showed a marked increase due chiefly to an increase in imports, as is generally the case in a period of prosperity. Consequently the balance of trade favoring exports decreased to $6,000,000; but the excess of gold imports increased to $35,700,000. Surplus reserves were still further reduced, and prices began to rise. The London Economist's commodity index for the year was 2,087.

The stock market was rather less active than in the preceding year, and the prices of stocks fell from 125 to 112 in the summer and fall, owing doubtless in part to the approaching presidential election and the doubt and hesitation which is always reflected in business circles with the approach of this process in politics. But railroad earnings improved, the net per mile being $2,444, and money rates were normal. Moreover, while the yields of corn and wheat together amounted to less than 2,000,000,000 bushels, the cotton yield increased from 6,500,000 bales of the year before, to 7,000,000 in this year. In politics, government control of railroads was inaugurated in this year by the passing of the Interstate Commerce Act.

1888

Owing to satisfactory fundamental conditions, prosperity made rapid progress in this year in spite of the fact that it was a "presidential year." New construction amounted to 6,900 miles, and iron production increased slightly to 6,489,000 tons. Bank clearings were about normal at $49,497,500,000;

and failures, though increased in numbers, were decreased in total liabilities. The number of immigrant arrivals increased to 546,000.

Monetary conditions were interesting. While exports decreased, imports increased and the total volume of foreign trade decreased to $1,417,000,000. Consequently there was at the end of the year a balance of trade "unfavorable" to the United States amounting to $33,600,000 and a resulting excess exportation of gold amounting to $23,500,000. Domestic money rates remained at 5%, but surplus reserves in New York banks increased to an average reserve of $17,000,000. The English index figure for commodity prices rose to 2,458.

The inactivity of the stock market during this year can probably, as in the fall of 1887, be ascribed largely to the approaching presidential election. Early in the year, stocks stood at a low point of 113, after the election they bounded up to 126 in December. In fact, with the election of the Republican candidate, General Harrison, business in general showed a marked improvement. The net railroad earnings for the year amounted to $2,045 per mile, a low figure. Total crops, too, showed no great increase, though the total wheat and corn crops amounted to 2,400,000,000 bushels.

1889

This was a year of prosperity. New railroad construction was normal at 5,162 miles; while iron production increased to 7,600,000 tons selling at $17.76 a ton. Bank clearings rose to $56,000,000,000, and

failures increased somewhat. Immigration declined to 444,000.

In monetary affairs, the volume of trade was only slightly larger than in the preceding year; but the balance turned again "in favor of" this country amounting to an excess of exports equal to $56,584,000. Exportations of gold, however, continued to exceed imports, in this year, by $38,900,000. Surplus reserves of the banks were somewhat below normal. As indicated by the index figure of the London Economist, which was 2,362 for this year, commodity prices had somewhat dropped.

On the stock exchange, transactions showed an increase. Stocks rose from 123 in the spring to 136 in the fall. Domestic time loan rates continued at 5%, while those abroad were at 3%. The net earnings of railroads still remained low. Crops, however, were excellent, especially those of corn and cotton, which were the largest in the history of the country thus far. The cotton crop of 7,472,511 bales sold at $.106 per lb.; the corn crop of 2,112,892,000 bushels sold at $.44 per bushel; and the wheat crop of 468,373,968 bushels sold at $.91.

1890

In this year, sound prosperity changed to an "uncertain prosperity," which was to continue for two years longer, during which time, while surface conditions looked satisfactory, fundamental conditions were far from sound. New construction amounted to 5,427 miles, and pig-iron production increased to 9,000,000 tons, selling at $18. Bank clearings

also rose to $60,800,000,000, and failures increased only slightly. Immigration showed little change.

In monetary matters, the volume of foreign trade increased to $1,680,000,000 and the excess of exports amounted to $34,000,000. Exports of gold exceeded imports by only $3,800,000. Surplus reserves in the New York banks fell to the low average figure of $3,700,000. The English commodity price index figure, 2,247, shows a still further drop in prices.

The stock market conditions were peculiar. Railroad earnings rose to a net per mile of $2,162. The cotton crop was unusually large, amounting to 8,600,000 bales; but the wheat and corn crops fell off considerably, amounting together to only 1,900,000,000 bushels. Money rates in this country rose to 6% and abroad to 4%. Ten stocks which remained above 130 until the fall, suddenly dropped then to 118. This drop marked what may be called a "surface panic," brought on by the great Baring Failure at which time clearing house certificates were issued to relieve the pressure on the banks. Public confidence and courage, greatly agitated by this panic, was still further disturbed during the year by the political discussions which ended in the passing of the McKinley Tariff Act and the Silver Purchase Act.

1891

In spite of the generally favorable surface conditions of this year, confidence was not fully restored. New railroad construction decreased to 4,026

miles, and pig-iron production fell off nearly a million tons. Bank clearings also declined to $56,900,000,000; and failures increased to 12,273 in number with liabilities of $189,868,000. Immigration increased to 560,319.

Foreign trade continued to develop, amounting in volume to $1,798,830,000 with a balance of $142,000,000 in favor of the United States. Gold exports increased correspondingly to an excess over imports of $34,000,000. Surplus reserves in the New York banks rose to $11,000,000. The English index figure of commodity prices declined to 2,207.

On the stock market, the listing of new securities, which had amounted to the large figure of $1,122,800,000 in 1890, declined in this year to $476,500,000. The Exchange was dull. Ten stocks sold around 115 until the late summer, when they rose to 128. Railroad earnings remained much the same as in the year preceding. Crops, however, were phenomenally large. The cotton crop of 9,000,000 bales sold at $.086 per lb. The corn crop of 2,000,000,000 bushels sold at $.67 per bushel. The wheat crop of 611,000,000 bushels sold at $1.05 per bushel. These fine crops caused the newspapers to be especially bullish, and enabled bankers and merchants to keep money rates from advancing further and to bolster up the market in order to unload their securities and merchandise. In fact, most people believed this a very satisfactory year. Students of fundamental statistics, however, clearly saw that the area of prosperity was about consumed and prepared for trouble.

1892

The prosperity of this year, so-called, was largely due to artificial causes. New construction amounted to only 4,441 miles, while the production of pig-iron rose to more than 9,000,000 tons and its price fell off to $15.75 per ton. Bank clearings increased to $62,321,000,000; failures declined in number to 10,344 and in liabilities to $114,000,000, and immigration figures rose to 623,000.

In monetary matters, though the commodity exports exceeded imports by $97,000,000, still there was an exportation of gold in excess of imports amounting to $59,000,000. The New York banks' average surplus reserve amounted to $15,600,000. Commodity prices in this country, as indicated by Bradstreet's index figure of $7.77 which began in this year, were fairly high, while in England the index figure of 2,107 indicates that there they were low.

On the New York Stock Exchange, transactions increased to 85,875,000 shares. Ten stocks fluctuated between 126 and 135, beginning and ending the year at about 130. Net railroad earnings per mile declined to $2,068. Crops were much smaller than in the preceding year, corn and wheat together amounting to less than 2,150,000,000 bushels. In short, it was clearly evident to students of fundamental statistics that the area of prosperity was more than consumed, and those, who had not already liquidated, sold securities, merchandise and everything else possible in preparation for a period of depression to last until 1897.

1893

Questionable prosperity passed readily into panic with the great failure of the National Cordage Co. on the 4th of May. The collapse was complete. New construction dropped to 2,346 miles; and iron production amounted to only 7,000,000 tons. Bank clearings in like manner fell off to $54,309,000,000; failures increased to 15,000 in number with liabilities of more than $346,000,000; and immigration, though not so quickly affected as these other subjects, declined to 502,917.

In monetary affairs, both exports and imports of commodities declined; and while the excess of exports increased slightly to $99,800,000, the excess of gold exports declined to $6,900,000. The average surplus reserve of the New York banks increased to $21,600,000. Bradstreet's index figure of American prices dropped to 7.53, while the English figure rose slightly to 2,113.

The stock exchange was dull and, of course, declining. Ten stocks dropped from 135 to 102. Railroad earnings showed no particular change from the year before; and money rates dropped in New York to 5½%. Unfavorable crop reports, which had increased the collapsing tendency during the year, were fully substantiated by the final reports. To be sure, cotton was a little better than in the preceding year, and corn showed only a slight decline, but wheat had dropped off from 500,000,000 bushels to 396,000,000 bushels, selling at the decreased price of $.739 a bushel. In fact, support of all kinds had been withdrawn, and every

commodity, including money, was allowed to seek its own level.

1894

In this year the inevitable period of depression following a severe panic began in earnest. New railroad construction declined to only 1,899 miles, and the production of iron amounted to only 6,600,000 tons. In like fashion bank clearings declined to $45,686,000,000; failures were still high, at 13,885 in number, though liabilities decreased to $172,900,000; and immigration declined to 314,467.

Monetary matters showed the same depression. The volume of foreign trade declined to $1,501,415,000 while the excess of exports increased (through a decided decrease in imports) to $150,000,000. Excess of gold exports jumped up to $80,000,000 and bank reserves in the New York banks increased to $45,900,000. Commodity index prices dropped in America to 6.43 and in England to 2,002.

On the New York Stock Exchange only 49,000,000 shares were traded. The ten stocks rose to 115 in the spring and fell back again to about 106 in the winter. Railroad earnings fell to $1,803 per mile, net, the lowest figure on record. Crops, too, were exceptionally poor. Cotton, to be sure, amounted to 9,900,000 bales in yield, but it sold at the low price of $.069 per lb.; and corn and wheat together yielded less than 1,700,000,000 bushels. In reality this year witnessed the greatest crop failure in the history of the country. The crops

had fallen below 1,600,000,000 bushels during the 70s, yet a very much smaller area was then under cultivation and conditions were entirely different. As figures clearly show, a small increase or decrease in crops does not affect business excepting sentimentally; but a great failure such as was witnessed in 1894 gives the country a shock from which it may take several years to recover. In addition to the crop failures, the Pullman strike occurred in this year, and the Wilson bill affecting the tariff was also passed; in fact, 1894 was apparently the worst year since the Civil War.

1895

This year began in great gloom. The depression of the preceding two years, during which so many bankers and merchants had failed and one-third of the total railroad mileage of the United States had fallen into the hands of receivers, began to have its effects upon all labor and even upon the most humble storekeeper. Mills were shut down, great poverty existed in the cities, and distress was everywhere felt. New railroad construction declined to 1,700 miles. Iron production, however, had improved both in yield and in price, amounting to 9,000,000 tons and selling at $13 a ton. Bank clearings, too, showed a gain to $53,000,000,000; and failures decreased slightly in number. Only 279,948 immigrants entered the country.

The total volume of foreign trade showed a slight increase over the preceding year, but the balance "in favor of" the United States declined to $23,-

000,000. Still, the gold exports continued in large amounts, exceeding the imports by $70,500,000; and the surplus reserves, though reduced from the figures of the year before, were still high. Commodity prices remained about the same as in 1894 in this country, and dropped somewhat in England.

The stock market was rather more active; but again the ten stocks rose from 105 in March to about 121 in September only to fall back to about 108 in the winter. Railroad earnings were $1,804 per mile net, or practically the same as in 1894. But crops were somewhat improved. The cotton yield of 7,000,000 bales sold at $.074 per lb.; the corn crop of 2,000,000,000 bushels sold at $.477 per bushel; and the wheat crop of 467,000,000 bushels sold at $.669 per bushel. And, added to the fair crops, there was the low domestic money rate of $3\frac{1}{2}\%$ to lend aid to an improvement. In fact, conditions would doubtless have taken a turn for the better had it not been for the very unfortunate condition of finance, and the great exportation of gold. Although President Cleveland did everything within his power to uphold the gold standard and the credit of the United States, the drain was too heavy, especially after his famous Venezuela message, and the threatened possibility of war with our greatest foreign creditor, England.

1896

This year business was still depressed from the panic of 1893 and the heavy gold exportations of 1894–5. New railroad construction declined to 1,654 miles, the low figure for the depression; and

iron production declined to 8,600,000 tons selling at $13 a ton. Bank clearings decreased to $51,000,000,000. Failures increased considerably to 15,000 in number with total liabilities of more than $226,000,000. Immigration amounted to 343,267.

In monetary matters, the volume of foreign trade increased to $1,687,000,000 and the excess of exports jumped up to $324,000,000. In gold movements, imports exceeded exports $46,400,000. The American index of commodity prices dropped to the low point of 5.91.

The New York Stock Exchange was dull in transactions, but listed more than $1,000,000,000 of new securities about equally divided between bonds and stocks. The ten stocks once more fluctuated between 113 and 99 in August. Railroad earnings increased to $1,840 per mile net. Money rates on time loans in New York, owing to the currency troubles of the preceding year and the spring of this year, rose from 3% to 6%. Though the wheat crop itself declined somewhat, the total of corn and wheat amounted to more than 2,700,000,000 bushels and cotton yielded 8,000,000 bales. Therefore, although there were no signs of better times in surface conditions, fundamental conditions were becoming much sounder. Had it not been for the alarm felt at the Democratic nomination of Bryan in June, this would have been from its very beginning a year of distinct improvement; and when the election of McKinley in the fall of 1896 had removed this cause of distrust, bankers and merchants who were studying the situation became con-

vinced that a change for the better was imminent. In fact, it was evident from a study of fundamental statistics that the area of depression was about consumed, and a period of prosperity was due. They therefore purchased securities and merchandise in large quantities, and later made great profits thereby, as the major bear movement commencing in 1892 was at an end.

1897

Distinct improvement characterized this year. New railroad construction increased to 1,822 miles, and the production of pig-iron amounted to 9,600,000 tons. Bank clearings increased to $57,000,000,000 and failures decreased in number from 1.36% of all the firms in business to 1.23%. Immigration amounted to 230,832.

Monetary matters were more sound. The foreign trade increased to $1,842,000,000; and the excess of exports to $357,000,000. Gold exports again exceeded imports but only to the small amount of $253,000. Surplus reserves in the New York banks averaged the high figure of $38,500,000. Commodity prices in this country rose as shown by Bradstreet's index figure of 6.11.

The stock market was more active, but the ten stocks continued much the same range of fluctuations they had passed through in the last three years. Domestic money rates returned to the 3½% of 1895, and railroad earnings continued to improve. Crops, too, remained strong. Though corn showed a decrease, wheat increased to 530,000,000 bushels

and cotton increased to 11,000,000 bales. The three sold respectively at $.319, $.954 and $.07. When the Dingley Tariff Act had brought an end to anxiety in that field, it was discovered that the country was well on the road to prosperity.

1898

Everywhere prosperity reigned. New construction amounted to 2,219 miles, while iron production increased to 11,700,000 tons selling at $12. Bank clearings jumped up to $68,931,000,000; failures decreased to 12,000 in number; and 230,000 immigrants entered the country.

In monetary affairs, the volume of foreign trade still showed an increase due to the great increase in exports in spite of the fact that imports had somewhat declined. Exports which had amounted to only $824,000,000 in 1895 had increased steadily with the improving crops until in this year they amounted to $1,255,000,000 or rather more than two-thirds of the total volume. Imports of gold increased correspondingly to the immense figure of $158,163,952. Surplus reserves showed a decline from the abnormally high figures of the preceding year. American commodity prices continued to rise as indicated by Bradstreet's index figure of 6.57.

The New York Stock Exchange reported transactions amounting to 112,000,000 shares, and new securities listed amounting to $1,228,000,000 of which $700,000,000 were bonds. The ten stocks rose from a low point of 115 to a high point of 127 in

June. Net railroad earnings jumped up to $2,111 per mile. Once more money rates were normal, time loans in New York averaging 4%. The crops, too, kept pace with the advancing prosperity, for cotton amounted to 11,200,000 bales, corn to 1,900,000,000 bushels, and wheat to 675,000,000 bushels. Although the Spanish War temporarily disarranged business, it was so short that it acted in the end as a great stimulus to trade.

1899

Conditions, already prosperous, continued to improve throughout this year. New mileage amounted to 4,000 miles; iron production advanced to 13,600,000 tons. Bank clearings showed a phenomenal growth to $94,000,000,000, while failures decreased to 9,337 in number or only .81 of 1% of all the firms in business. The number of immigrants increased to 311,715.

Monetary conditions showed a similar strength. The volume of foreign trade amounted to more than $2,000,000,000 and the balance sheets showed an excess of exports amounting to $476,000,000. Money rates at home and abroad were 4%, and the excess of importation of gold amounted to only $6,000,000. Commodity prices in this country and in England showed an increase as indicated by Bradstreet's index figure of 7.21 and the Economist's figure of 1,973.

On the New York Stock Exchange, transactions increased to 176,000,000 shares, while the listing of new securities amounted again to nearly $1,230,-

000,000. The ten stocks continued their rise from 126 to 144. Net railroad earnings increased to $2,272 per mile. Though the cotton and wheat crops showed a decline, corn increased so that the total bushels of corn and wheat together again amounted to more than 2,600,000,000 in number. Industry in all lines was again firmly on its feet. In reaction against the cut-throat competition which had existed all through the depression just ended, and had thoroughly exasperated business interests, a great movement towards consolidation in industries and towards "integrating trusts" began in earnest with this burst of prosperity. In fact, this year saw the beginning of many of our largest trusts and monopolies in their present form of organization.

1900

With the turning of the century, prosperity was in full swing. To be sure some of the figures in the fundamental subjects showed a slight decline as compared with those of 1899, but this was rather a hopeful sign than otherwise for the prospects of the continuation of good times. Thus new railway construction declined to 3,444 miles, while pig-iron production remained high at 13,789,000 tons selling at $20 a ton. Bank clearings, too, declined to $86,000,000,000, but this was still more than $15,-000,000,000 greater than the clearings of two years before. Failures numbered at 10,700 with liabilities of $138,495,000. Immigration increased to 448,570 in number.

In monetary matters, while the total volume of

trade advanced to $2,300,000,000, the balance "in favor of" this country reached to $648,800,000, the largest balance of this kind in the history of the country. Imports of gold exceeded exports by $12,600,000. Bank reserves were normal. In commodity prices, Bradstreet's figure rose to 7.88 and the Economist's to 2,178.

The stock market continued active in transactions but a smaller amount of new securities were listed. Though suffering the usual spring slump of this period, the ten stocks rose from a low point of 132 to a high point of 155. Net railroad earnings advanced to $2,519 per mile. Domestic money rates strengthened to 5% on time loans. Crops were again firm both in yield and in price. Corn and wheat together amounted to 2,620,000,000 bushels and sold respectively at $.804 and $.453 per bushel. The reëlection of McKinley and the enactment of the "Gold Standard" bill gave additional impetus to business. Everywhere consolidation was the rule, especially in the railroads, where "community of interests" was becoming common.

1901

Prosperity was running riot. New construction increased to 4,481 miles, while iron production advanced to 15,800,000 tons selling at $16. Bank clearings bounded up to $118,579,964,282 and failures remained about the same as in 1900. New immigrants increased somewhat in number to 487,900.

A slight increase came in the total volume of

foreign trade, but the excess of exports decreased somewhat. The latter fact was due to an increase in imports, and the excess of gold exports which came in this year amounted to $3,000,000. Bank reserves were still about normal, though tending to decline. Commodity prices both in this country and in England declined as indicated by the respective index figures of 7.57 and 2,014.

The activity of the stock market was extreme. On the New York Exchange more than 265,000,000 shares were traded, and more than $2,565,000,000 of new securities were issued, of which the majority were stocks. This was the year when a partial panic in the market was caused by the Northern Pacific stock corner, and most stocks suffered from artificial manipulation. The ten stocks, which we have used heretofore, rose from 154 to 174 between January and November, but more active stocks continued the sharp advance begun in 1900, to May of 1901. Meanwhile net railroad earnings continued their increase to $2,688 per mile; and money rates and crops remained strong. To be sure the corn crop decreased somewhat, but the wheat crop increased from 500,000,000 to 748,000,000 bushels. Still, fundamental conditions were not satisfactory, the "prosperity" area, as shown by the Composite Plot, was nearly consumed, and the cautious investors were changing their positions to the "bear" side of the market.

1902

This was a year when the average business man and manufacturer were very optimistic; when the

daily papers were prophesying still higher prices and still greater activity, and when the surface conditions were apparently more satisfactory than ever before. Yet underlying conditions, especially those illustrated by the figures on "new securities issued," were far from sound. In fact, had it not been for gigantic crops, a severe depression would probably have set in at once. In mercantile conditions, new railroad construction amounted to 4,195 miles while iron production increased to 17,800,000 tons, selling at the advanced price of $22 a ton. Bank clearings remained at about $118,000,000,000 while failures remained abnormally low at 11,615 in number or only .87 of 1% of all the firms in business. Immigration increased to 648,743.

Monetary conditions showed a slight decrease in the total volume of trade, as well as a decrease to $391,000,000 in the excess of exports, due, again, entirely to an increase in imports. Gold imports exceeded exports by $8,000,000. Bank reserves were abnormally low, those of the New York banks averaging only $10,700,000. American commodity prices showed a distinct gain indicated by Bradstreet's index figure of 7.97, but English prices were falling.

The New York Stock Market, though not so active as in 1901, still reported transactions amounting to 188,000,000 shares, and new securities listed amounting to $1,317,000,000. Thus in two years new securities had amounted to almost $4,000,000,000. Men who recognized the meaning of this tremendous increase in new securities issued,

knew that a day of reckoning must come soon. Meanwhile, the ten stocks continued to rise from 170 to 190, but fell again to about 170 in December. Net railroad earnings continued to increase to $2,830 per mile. A slightly decreased wheat crop was reinforced by an increase in corn amounting to 1,000,000,000 bushels, so that the total crop of wheat and corn amounted to more than 3,150,000,000 bushels. Cotton production increased about 1,000,000 bales, about the same as in 1901. But even these excellent figures could not save the unsound conditions of the money and stock markets. Furthermore, confidence was unsettled by severe anti-trust agitation and certain government prosecutions of trusts. These facts, together with a study of the Composite Plot of fundamental conditions, clearly showed students of the situation that the area of prosperity was again consumed, and another depression was again imminent, although it was generally believed that this "area" represented only a minor movement, and that the major movement, beginning in 1897, was still upward.

1903

Shaken confidence and unstable stock market conditions resulted in the so-called "Undigested Securities Panic" of this year, in which few figures of fundamental subjects were radically altered except those directly related to the stock market. Thus new railroad construction advanced to 4,397 miles, and the production of pig-iron to 18,000,000 tons. Bank clearings declined to $109,000,000,-

000. Failures decreased in number to 10,928 or .85% of all the firms in business. Immigration advanced to 857,000.

In monetary matters the volume of foreign trade advanced to $2,480,000,000 and the balance "in favor of" this country amounted to $489,000,000. Excess of gold imports increased to $20,900,000. Bank reserves increased somewhat. American prices remained strong at 7.92 and English prices strengthened.

On the New York Stock Exchange, transactions declined to 161,000,000 shares, but the issue of new securities continued to be large at $1,088,000,000. In the past six years more than $8,000,000,000 of new securities had been turned loose on the market. The ten stocks fell during the year from 180 to 146. Net railroad earnings continued their steady increase per mile to $2,887. Crops declined to no great extent from those of 1902. In justice to those statisticians who found no signs forecasting a depression in this year, it must be said that these figures were not extremely unsatisfactory. In fact, had it not been for the very great increase in securities, there probably would have been no depression of 1903. However, owing to the stock market troubles, labor troubles, and certain other conditions, this year was one of depression.

1904

That the panic of 1903, like that of 1890, was not fundamental in its effects is pretty clearly shown by the fact that prosperity, not depression, followed

immediately in 1904. New railroad construction continued to increase to 5,059 miles, though iron production declined to 16,497,000 tons selling at $15.50 a ton. Total bank clearings also increased to $112,600,000,000; and failures increased slightly in actual numbers, and also in percentage of firms in business to .86 of 1%. Immigration almost held its own at 812,870.

Monetary matters showed firm banking conditions. The volume of foreign trade again increased and owing to a marked increase in imports and a slight decrease in exports, the balance "in favor of" the country decreased to $415,000,000. Once more gold exports exceeded imports, in this year, by $36,000,000. The average surplus reserve of the New York banks rose from $12,000,000 to $28,000,000. Commodity prices remained much the same as in 1903.

The stock market was again active, though the issue of new securities on the New York Exchange declined to $710,900,000 of which more than $500,000,000 was bonds. The ten stocks rose again from their fall to 146 in 1903 to within about ten points of their former high of 190. Net railroad earnings increased to $2,980 per mile. Time loan rates dropped to 4% in this country and 3½% abroad. In crops, cotton amounted to the largest yield on record of 13,506,000 bales, selling at $.117 per lb.; corn amounted to 2,467,000,000 bushels selling at $.594 per bushel; and wheat amounted to 552,000,000 bushels selling at $1.07 per bushel. In this year, Roosevelt's administration was continued by his

election to the office of presidency, and the attention of the whole world was attracted to the Russo-Japanese War.

1905

Prosperity continued in increasing and unparalleled measure. New railroad construction amounted to 4,900 miles, and pig-iron production jumped to 22,990,000 tons selling at $18 a ton. Bank clearings advanced to $143,900,000,000 while failures declined in number to 10,740. Immigration increased rapidly to 1,026,000 persons.

Both volume of foreign trade and excess of exports, showed an advance, and $3,498,000 were imported in excess of gold exports. The average surplus reserve of the New York banks declined to only $10,200,000. The American index figure of commodity prices advanced to 8.09.

The stock market was very active. On the New York Exchange, transactions amounted to 263,000,000 shares, and new securities listed amounted to a billion and a half dollars, of which nearly a billion were in bonds. The ten stocks in this year had an unprecedented rise from 180 to 204. Net railroad earnings advanced to $3,129 per mile. Though the cotton crop declined 3,000,000 bales, the wheat and corn crops were both larger than in 1904, amounting together to more than 3,400,000,000 bushels. Though surface conditions appeared wonderfully prosperous, confidence was badly shaken by the Life Insurance and Traction Company exposures of this year.

1906

Prosperity was abnormally inflated. New construction in this year amounted to 5,425 miles, and iron production advanced to 25,000,000 tons selling at $21. Bank clearings were at the second high point on record, increasing to $160,003,265,000, while failures declined in number to only 10,031 or .72 of 1% of all the firms in business. Immigration amounted to 1,100,000.

In monetary affairs the volume of foreign trade amounted to $3,118,000,000. The balance "in favor of" this country increased to $477,000,000; while the excess of gold imports, aided by artificial importation, amounted to $108,000,000. The average surplus reserve of the New York banks dropped to only $7,300,000. Commodity prices advanced as shown by the American index figure of 8.42.

On the stock exchange, transactions increased, and prices continued abnormally high. The ten conservative stocks dropped from the high of 205 in January to a low point of 180 in the winter. Railroad net earnings advanced to $3,580 per mile. Crops were tremendous. Cotton yielded 13,000,000 bales at $.115; corn yielded 2,927,000,000 bushels at $.560; and wheat yielded 735,000,000 bushels at $.865. Such satisfactory crop conditions, however, only served to increase the mad pace which prosperity had assumed, and students of conditions were not satisfied. Liquidation, therefore, commenced, securities and merchandise were sold, and stocks of all classes declined in price. The money situation was especially strained, as the depression of 1903 was

not severe enough to liquidate many accounts which should have been cleared up. In fact, conditions were far from satisfactory at the end of the year. This was the year of the San Francisco Earthquake and the culmination of the major bull movement beginning in 1897.

1907

In this year prosperity, carried to an extreme point, collapsed in panic. But, as is usual, the change in conditions was not apparent except to those students of fundamental statistics who clearly saw by means of a Composite Plot that the area of prosperity was about consumed, and that we had entered another period of liquidation which might not end for several years. New construction decreased to 5,362 miles, while iron production advanced to 25,000,000 tons selling at an average price of $24. Bank clearings, however, declined to $145,000,000,000, and failures increased in number to 10,990. Immigration advanced to 1,285,000.

In monetary affairs, the total volume of foreign trade continued its increase to the unparalleled figure of $3,346,000,000; the balance from excess of exports increased to $500,256,000; and in gold movements the excess of imports declined to $88,000,000. The bank reserves were everywhere extremely low, those in New York averaging under $400,000. This together with abnormally high commodity prices, as illustrated by Bradstreet's index figure of 8.90, showed money conditions to be highly unsatisfactory.

The stock market, always a sensitive barometer of all changes, declined decidedly from the beginning of the panic in March. On the New York Exchange, transactions amounted to only 196,000,000 shares, and new securities, to only $997,000,000. The ten stocks which had temporarily recovered from their severe decline in 1906, dropped again from a high point of 183 in January to a low point of 119. Railroad net earnings continued their increase to the high point of $3,700 per mile, held up by crops and the volume of trade. Crops declined somewhat from the bumper crop of 1906, but were still excellent. Wheat and corn together amounted to more than 3,200,000,000 bushels and sold at $.963 and $.640 respectively. Domestic rates on time loans advanced nearly to 6%, while rates abroad advanced to 4¾%. Legislation adverse to trusts and railroads added to the general consternation in business circles, and before the end of the year, the country had dropped from overactive prosperity into dull depression.

1908

Depression had, in this year, extended from the stock market to other lines of business. New building was at a very low ebb. Although 3,918 miles of new railroad were constructed, only 15,900,000 tons of pig-iron were produced, and there was little new building construction. Pig-iron sold at about $17.70 per ton. Bank clearings declined to $132,408,000,000 and failures increased in number to 14,873. The condition of the labor market is shown by the fact that only 782,870

immigrants entered the country, although wages still held up.

As has been universally true in the past, such a period of depression is accompanied by low money rates. The surplus reserves held by the banks were very large throughout the entire year and the percentage of cash was high. Not only were rates low in the United States but also throughout Europe. The volume of foreign trade amounted to $2,869,209,000 and the balance of trade in favor of the United States amounted to $636,461,000, while gold movements showed an excess of exports amounting to $30,939,163. The demand for money was still further lessened by a distinct decrease in commodity prices, the Bradstreet Index declining to 7.72 in June.

The stock market remained almost as depressed as in 1907 both in transactions and new securities listed, but by November the prices began to show a distinct rise. Thus the ten stocks, which had remained under 125 all during the summer, rose in December to 164. Railroad net earnings declined to $3,144 per mile. Fortunately, crops remained good. Cotton, yielding 13,432,131 bales, sold at $.106 per lb.; corn yielding 2,668,000,000 bushels sold at $.786; and wheat yielding 664,000,000 bushels sold at $1.05. In politics a temporary currency bill was passed to meet the depressed conditions; while Mr. Taft's election to the Presidency secured the continuation of the Republican administration and policy. The depression had passed the low point, giving place to marked

improvement. In fact, by the spring of the next year, the area of depression was completed.

1909

Though still suffering from the depressing business conditions following the panic of 1907, this was a year of apparent improvement. New railroad construction increased to more than 6,000 miles, and the production of pig-iron showed a decided advance to 25,800,000 tons selling at about $18. Bank clearings also advanced to $165,838,000,000, and failures decreased in number to 12,430. Immigration continued low at 751,786 new arrivals.

In monetary affairs, money rates continued at a low level, as is usual in depressions following a panic. But the volume of foreign trade advanced to more than $3,000,000,000, due entirely to an increase in importations, while the excess of exports decreased to $252,677,000. Once more gold exportations exceeded imports, reaching in this year the high point of $88,793,000. Bank reserves declined from the high figures of 1908 to more normal figures. Bradstreet's index figure of commodity prices advanced to 8.51.

The stock exchange was again thoroughly active. In New York, transactions amounted to more than 274,000,000 shares, while new securities listed increased to $2,424,000,000, almost equally divided between stocks and bonds. The ten stocks rose from 156 to 190. Railroad earnings increased slightly in the gross, while the net was $3,582 per mile as a result of economies introduced during the

depression. Though crop reports in the early part of the year were unsatisfactory, the final figures showed a decline only in cotton, while wheat and corn were good. Cotton yielded more than 10,000,000 bales selling at $.126 per lb.; corn yielded 2,552,000,000 bushels selling at $.767 a bushel; and wheat reached the high point of 683,000,000 bushels selling at $1.26 per bushel. These figures signify that the country enjoyed a temporary improvement, as would be expected after the conditions of 1907 and 1908.

1910

During the first few months of this year mercantile conditions forged ahead in a fashion that bade fair to precipitate a premature period of forced liquidation, and undoubtedly was the direct cause, through fundamental channels, of the stagnant period which followed during the summer in most lines; although, in this dullness, the Interstate Commerce Commission interference with the railroads in their attempt to raise rates played an important part. In fact, it was only the slowing up of business, as general conditions became increasingly unsound which saved the situation. Thus, new railroad construction which had amounted to more than 6,000 miles in 1909, declined somewhat; and iron production, which averaged 2,500,000 tons for the first four months of the year, averaged only 2,100,000 tons for the remaining months, while the price fell from $19 to less than $16 before the end of the year. Bank clearings declined slightly to about $164,095,000,000, and liabilities in failures in-

creased by an average of $4,000,000 a month over those of 1909. The number of immigrants increased to over 1,000,000.

The fundamental figures in monetary conditions showed most clearly the unsound condition of the country, which could not have withstood the strain of a continued advance in mercantile affairs. Thus, money rates were forced up from their low level of 1909, marking a strained money market fully a month earlier than the usual rise due to crop movements. Foreign trade during the first eight months of the year showed an unfavorable balance, and showed a marked improvement only in the last months. At the same time, the excess of gold exports during the first of the year was considerable, but for the whole year declined to a moderate sum. The loans of the New York Clearing House banks averaged per month more than the deposits for the twelve months of the year. These facts, together with a yearly figure for Bradstreet's index of commodity prices amounting to about 9.00, showed clearly that the country's money market was strained and unsound.

Investment conditions reflected this unsatisfactory state of affairs most faithfully. Transactions on the New York Exchange declined to less than 165,000,000 shares, the lowest figure since 1903; but new securities listed, amounted to $2,047,664,045, a considerable amount of which was due to the abolishment of the unlisted section of the Exchange. The ten stocks dropped from 179 to 150. Although gross earnings of the rail-

roads showed an increase over the year before, the unfavorable increase in the ratio of operating expenses caused net earnings to show a marked and most unsatisfactory decline. Optimism based on the crop reports was well justified by the actual returns. Wheat production declined somewhat, but cotton was better, and corn yielded a bumper crop of more than 3,000,000,000 bushels. The prices of all three, however, declined respectively to $1.12 a bushel, $.131 a pound and $.66 a bushel. Uncertainty was the keynote of the year. "Insurgency," Democratic success at the polls, and governmental delay in trust and railroad rate questions, had their share in causing hesitation.

1911

Mercantile conditions continued to evince the decline during this year, and others than students of fundamental conditions at last were willing to acknowledge that the outlook was not as good as it might be.

Total bank clearings declined during the year about 3%, making the total decline from the high point of 1909 about 4%. Under conditions of normal growth along the line X-Y, clearings for the country, excluding New York, should have been increased greatly instead of remaining so nearly on a level. There was a larger number of failures, and liabilities were about five per cent lighter. A marked decline of more than 15% was shown in immigration reports, bringing us to one of the lowest levels in ten years. Average per mile earn-

ings of the railroads reporting to the Interstate Commerce Commission declined, but both gross and net earnings of the ten roads recorded on the Desk Sheet increased, as compared with 1910. Commodity prices declined, and this slackening was followed by an advance in food-stuffs, which checked the decline of Bradstreet's Index of Commodity Prices.

Owing to an inactive stock market and declining business, money rates were much easier, but students of fundamental conditions did not feel that the loans of the banks had been sufficiently liquidated to render the situation satisfactory. There was a constantly increasing amount of money in circulation, but the estimated average per capita, $34.41, did not increase as fast. In January and March the National Banks reported a percentage of loans to deposits, with the exception of the call of September 1, 1910, higher than at any time since 1908. The net deposits also increased, the figure $6,689,018,000 on June 7, being the highest on record, with the per cent of reserve at 22.10% compared with a previous high of 23.94% in 1908. The ratio of reserve to deposits decreased to 21.05% on December 5, the lowest point since March 22, 1907. Imports declined, and exports of general merchandise increased about 15%. This increase was due to large exports of food-stuffs, both raw and manufactured, and also to a great increase in exports of general manufactures.

Imports declined somewhat, but were not far below 1910, which year made the highest record

in the history of the import trade. Gold exports decreased 37%. Gold imports remained about the same as in 1910, and therefore the resulting balance in favor of the United States was very satisfactory.

Investment conditions during 1911 were very unsatisfactory. Dullness was at times exceedingly marked. On the New York Stock Exchange the number of shares traded was very small, 127,207,058, compared with 164,150,061 in 1910. Bond sales increased, and fewer new securities were listed, but the amount of actual issues was nearly 15% greater. Gold production continued to increase. A severe drought reduced the yield in some of the crops; wheat, oats, hay, and potatoes were below the average; corn was only fair, while the largest acreage of cotton ever known produced over 14,000,000 bales. Investment conditions were adversely affected by the Supreme Court decisions and reorganization of large corporations under the Sherman Law, the consequent discussion and uncertainty reacting unfavorably on the market and business in general.

1912

With the exception of the activity attendant upon the good crops, business remained for the most part below the line of normal growth. Failures numbered even more than in the preceding year, and nearly equaled the record of 1908; liabilities also showed a large, though not equivalent increase; while the proportion of failures to firms in business reached the heavy mortality rate of .90%. Total

bank clearings, although responding in the late fall to the crop influence, remained nearly at a level for the first three quarters of the year, and only slightly higher than for the corresponding period in 1911, in spite of the fact that commodity prices advanced sharply throughout the year, reaching the highest point which Bradstreet's Index ever recorded. Pig iron production increased to more than 29,000,000 tons. New construction as estimated by the railroads was under 3,000 miles, — almost at a standstill as contrasted with the previous fourteen years. Railroad earnings as reported to the Interstate Commerce Commission showed a gain; both gross and net earnings of the ten roads on the Desk Sheet also increased. Immigration showed a marked gain, especially during the latter part of the year.

The total amount of money in circulation increased. However, the estimated average per capita, $34.48, was but little larger than the corresponding figure for 1911. In November, the national banks reported a high ratio of loans to deposits; for the year, as a whole, this ratio averaged somewhat lower than in 1910 and 1911. Percentage of reserve declined. The surplus reserve of the New York clearing house banks (excluding the trust companies) reported at $44,000,000 in February, was reduced in July to a deficit of more than $200,000; again toward the close of the year the surplus was replaced by a deficit. Imports gained about 19% for the year, giving the largest total in the history of the trade. The balance in favor of the

United States was $582,333,633 compared with a previous high of $636,461,360 in 1908. Gold exports gained about 27% over 1911, with gold imports remaining about the same, thus resulting in a rather less favorable balance.

Investment conditions were not satisfactory. Shares traded on the New York Exchange numbered more than in the preceding year, but were still few compared with previous periods. Prices of ten investment stocks ranged from a low of 157 in January to a high of 170 in October. Bond sales fell off and prices were lower than in any recent year since 1908. Owing partly to the reorganization of certain corporations under the Sherman Law, new listings and new issues increased. Gold production made new records. The crops were large, but cotton made a small showing as compared with the big crop of 1911. Tariff discussion, corporation investigation, and other unsettling influences, disturbed the market and business in general. Labor troubles were particularly in evidence and exerted a most adverse effect, making against the greater prosperity which might otherwise have been possible. Students of fundamental conditions saw in Mr. Wilson's election the fulfilment of the great law, that whenever there is deep social and economic unrest and dissatisfaction the people seek a new administration in hope of relief.

CHAPTER VI

SUBJECTS RELATING ESPECIALLY TO MERCANTILE CONDITIONS

(For figures for years later than those given, see the large sheet in the Addenda at the end of this book.)

WHEN interpreting the twenty-five subjects treated in this and the following two chapters one must remember that it is first necessary to decide in which of the four periods the country is; whether in a period of depression, a period of improvement, a period of prosperity, or a period of decline. This is due to the fact that the same changes in the figures of a given subject signifies different results under different periods; for example, during a period of depression, an *increase* of Bank Clearings is a favorable sign, but during a period of prosperity a great increase is a dangerous sign. This problem, however, is readily solved by reference to the Composite Plot.

After deciding in what period the country is, each set of subjects must be interpreted in accordance with certain rules. In other words, with a given subject a *decrease* signifies one thing, an *increase* signifies another, while *no change* signifies a third. Therefore, the figures on each subject should be examined *independently* to ascertain whether the figures show a decrease, an increase, or no change. The new figure, whatever it is, will then be interpreted according as it shows "more satisfactory conditions," "less satisfactory conditions," or "uncertainty." After reaching this conclusion, relative

to what the figures on the subject under consideration signify, a note should be made of the result.

Each subject is treated in this manner and a conclusion reached. All of these conclusions are then summarized and count is taken of how many subjects signify an improvement, how many signify a decline and how many signify something else. All of these are then averaged, though a greater "weight" may be given to one subject than to another; and a conclusion reached as to the duration of the present period and the nature of the next change.

In short, the study of Fundamental Statistics consists simply of obtaining the latest figures on each subject, noting their trend, comparing both the figures and the trend with normal figures and normal trends for said subject, and lastly deducing one final conclusion as to whether the figures and the general trend of the figures on all the subjects, taken together, are becoming more normal or less normal, considering the areas of the Composite Plot.

Remembering that although theoretically the proper method is to consider each subject independently, yet the only safe method is to consider what they, *as a whole*, indicate. This can be best seen by a study of the Composite Plot. Therefore, although the directions given in these three chapters are very valuable for use as a check upon what the Composite Plot indicates, yet no independent subject should be allowed to overshadow what the Composite Plot indicates, viz.: (1), the Composite Plot always shows at a glance in what minor period we are and what period may next be expected;

and, (2), how long it will probably be before this next period of depression or prosperity will be upon us.

Therefore, in all cases, the "area consumed," as shown by the Composite Plot, must also be carefully considered.

Let us now turn directly to a study of such subjects as relate especially to mercantile conditions.

WEALTH, BUILDING, AND REAL ESTATE OPERATIONS

"Wealth," according to Theodore E. Burton, comprises "all things which are alike useful, limited in supply, and transferable. All wealth is produced from or created by land, labor, or capital. Land includes every form of nature in earth, seas, or air, together with the natural forces which may be set at work. It is the source of our so-called 'raw materials.' Labor includes physical strength and exertion, and the mental qualities which furnish them with method and ingenuity."

"Capital, technically defined, is wealth withheld from immediate consumption for the purpose of producing wealth in the future. It includes food, clothing, and fuel for support of those engaged in production of wealth, necessary seed for planting, raw materials for the finished products of manufacturers or, if we look at the subject from the standpoint of the employer or capitalist, money for wages and the purchase of supplies. These may be included in the term circulating capital. There is also fixed capital, which includes tools, machines, factories, buildings occupied or used by those en-

gaged in productive employment, improvements upon land, likewise ships and railways with all their equipment. Nations are rich or poor not in proportion to the amount of land or natural resources which they have, but in accordance as they have an abundance or lack of capital."

The above describes what is technically known as "wealth." A concrete example of what constitutes wealth may be found in the following tables. The figures are made up by the Bureau of the Census, Washington, and as reported for the census years, are carefully compiled records of actual values as appraised under the general terms, real and personal property. The figures for all years between the census years are estimates, and show proportional changes, based somewhat upon partial returns in some of the items included. The tables show exactly the forms of wealth comprising the total $107,104,211,917, according to the estimate of 1904–5.

ESTIMATED WEALTH OF THE UNITED STATES

	Latest Estimate	
	1904–5	1900
Real property taxed....	$55,510,247,564	$46,324,839,234
Real property exempt...	6,831,244,570	6,212,788,930
Live stock.....	4,073,791,736	3,306,473,278
Farm implements and machinery.....	844,989,863	749,775,970
Gold and silver coin and bullion.....	1,998,603,303	1,677,379,825
Manufacturing machinery, tools, etc.....	3,297,754,180	2,541,046,639
Railroads and their equipments.....	11,244,752,000	9,035,732,000

(a) Street railways, etc..	4,840,546,909	3,495,228,359
(b) All other property...	18,462,281,792	15,174,042,540
Grand total.....	107,104,211,917	88,517,306,775
a. Street railways, etc. (itemized)		
Street railways.....	$2,219,966,000	$1,576,197,160
Telegraph systems.....	227,400,000	211,650,000
Telephone systems.....	585,840,000	400,324,000
Pullman and private cars.....	123,000,000	98,836,600
Shipping and canals.....	846,489,804	537,849,478
Privately owned water works....	275,000,000	267,752,468
Privately owned electric light and power stations.....	562,851,105	402,618,653
Total.....	4,840,546,909	3,495,228,359
b. **All other property** (itemized)		
Agricultural products.....	1,899,379,652	1,455,069,323
Manufacturing products.....	7,409,291,668	6,087,151,108
Imported merchandise.....	495,543,685	424,970,592
Mining products.....	408,066,787	326,851,517
Clothing and personal ornaments	2,500,000,000	2,000,000,000
Furniture, carriages, etc.....	5,750,000,000	4,880,000,000
Total.....	18,462,281,792	15,174,042,540

NOTE: — C. A. Conant, who was authorized by the Census to estimate outstanding securities in the United States, gave in the Atlantic Monthly for January, 1909, a preliminary estimate of $34,514,351,382 or $414.54 per capita, of which $10,120,418,699 is held by holding companies. He figured the outstanding securities in Great Britain as $26,400,000,000 or $616.97 per capita; in France $19,500,000,000 or $500.94 per capita; Germany $10,000,000,000 or $177.41 per capita; and in Holland $2,200,000,000.or $405.08 per capita. For fourteen countries the aggregate is $111,077,764,-333 or $196.17 per capita.

Though the census figures are the only statistics which give the actual value of property in the country, since a complete statement is made only once in ten years, the needs of fundamental statistics lead to the adoption of certain other reports which may be expected to serve as barometers of the conditions termed wealth by our first proposition.

Building statistics, including railroad and municipal construction, give us the most interesting figures on this subject. Because a new house costs $10,000, all land on the same street improves and the valuation of the whole city is some thousands of dollars greater at the next census. A factory

erected on the same street might reduce the real estate value as residence property, but might so benefit the city as a whole as to increase greatly its entire wealth.

The difficulty of obtaining accurate reports of building has been an obstacle heretofore in the way of systematic study of the subject. The laws of cities and states are so different, that the returns from building permits alone are not reliable as a basis. But from the field of the contractor another set of figures is to be had. The best of these have been developed by the F. W. Dodge Co., of Boston, and the *Construction News* of Chicago. The business of these firms is to make a thorough canvass of the principal fields of constructive activity in order to furnish accurate information of business openings for contractors and supply firms of all kinds. Reports gathered by this very thorough system have been published from time to time for many years; but have only recently been segregated and tabulated. This has been done by my office, and the figures are now ready for the use of students of fundamental statistics. These reports cover the new work, both in private and municipal building and railroad construction. The values given are conservative and the result of careful inquiry by trained observers.

Fire losses, as reported monthly, include all fires, and show the total destruction of timber, rolling stock of railroads, wharfage and shipping, as well as buildings of all kinds. As in the case of construction or building statistics, the amounts given in

these fire loss tables cannot be compared directly with the census figures on wealth. Sometimes the insurance loss is given, sometimes the assessed valuation, sometimes an estimate, as in buildings and contents under appraisal. The direct loss by forest fires is hard to determine exactly, while the indirect losses, so well known to the students of forestry, cannot be calculated for use at frequent intervals. The monthly record, however, is a valuable indicator of conditions likely to contribute to the improvement or decline of business and should, for that reason, be watched. Conditions of poverty following fires, or general improvement as a result of new construction, are both necessary and valuable barometers of business and show where to increase or decrease investment in land, labor and capital.

Another factor of importance, and bearing a relation to the second group of subjects we are considering, is the real estate business. To understand rightly the financial condition of this country, we should know the history of real estate booms and watch for increased rents either of land or buildings. During the hard times of the winter following the crisis of 1907, many of the leading manufacturers reduced their rents fifty per cent, some more and some less. By such means, they hoped to keep their employees on hand for renewed production. Such action was an attempt to meet the wage-earner half way and is directly opposed to the spirit of that real estate boom, the chief phase of which is an arbitrary raising of rents for tenements

of all kinds. Such raises are usually seen in times of improvement and especially towards the culmination of a period of prosperity when rising wage-scales attract the attention of the house owner who raises his rents, and reaps his harvest, at the same time when commodity prices and security markets are rising. A study of the statistics will show that real estate values are very good business barometers. New land developed, irrigation systems introduced, and a variety of similar factors may seem to be the causes of booms here and there; but none of these enterprises can be carried on without the active investment of capital under sound fundamental conditions.

So, for the purposes of fundamental statistics, beside the official figures on wealth, there should be included these three subjects: (1) building construction, (2) fire losses and (3) real estate values. These subjects give us a gauge of conditions more frequently than once in ten years.

As the business man is much more interested in the relation of wealth to prosperity than in any definitions, it is interesting to note history and ascertain how the wealth of the country has affected conditions in the past. Let us, for example, study the relation of "Miles of New Railroad" to general conditions, using these construction figures as illustrative of "New Building."* The first great crisis which this country experienced was in 1837; it was preceded by six years of great activity. The

*This is done because it has been impossible to obtain good records strictly for "New Building" previous to 1909.

railroad mileage of the country had grown from 23 miles in 1830 to 1500 miles in 1837. Simultaneously with this growth in railroad mileage, new towns had been founded, new factories had been opened, desert lands had become taxable, farm property and the wealth of the country had rapidly increased. If the reader will turn to the records of this time, he will find that there was a greater increase of wealth between 1832 and 1837 than during any previous ten years of our history. A great number and variety of new enterprises were started, the bank deposits were large and there was great interest in trading, shipping, manufacturing and real estate. In fact, this great increase in real estate speculation resulted in a similar increase in the assessed valuation of both city and country property.

The second great crisis came in 1857, and was likewise preceded by a period of great increase in new construction. Immediately following the panic of 1837 there was a period of great depression and, although conditions improved in 1844 and 1845, there was no great advance until the discovery of gold in 1849. By 1852, California was actually sending millions of dollars worth of gold to New York. Shipping received a tremendous impetus both on account of the trade with California and on account of the Crimean War in 1854 and 1855. There was also a great increase in railroad mileage, which advanced from only 5600 miles in 1847 to 24,500 miles in 1857. In other words, in 1830 there were but 23 miles of railroad and in 1837, the year of

the panic, this had been increased to 1500 miles. During the ten years between 1837 and 1847, only about 4000 miles of new track were constructed, yet in the ten years from 1847 to 1857 about 20,000 miles were constructed. When studying such figures it appears very easy to have prophesied a panic for 1857. With the building of these 20,000 miles, thousands of new towns were settled, millions of acres of hitherto untaxed land became taxable as farm land, and a vast number of manufacturing and other enterprises were started. The result was another great increase in wealth equalled only by the increase which preceded the panic of 1837. As a still further result, came the panic of 1857, causing bankruptcies, suicides, and widespread destitution.

The third great crisis came in 1873. Like its predecessors, it had many causes among which, beyond a doubt, was the great increase in new building construction and new miles of railroad. The Civil War had been accompanied by great destruction of property and a consequent reduction in wealth. This was due partly to deterioration of values and the depreciation of the currency; but largely to the fact that the attention of the people had been turned away from productive industry. Ploughshares had been turned into swords with the accompanying decrease in production. When the Civil War was over, both the South and the North again gave their attention to agriculture, manufacturing and commerce, with the result of an unprecedented rebound. During the early six-

ties, taxable property decreased; during the early seventies it rapidly increased. The gain in wealth between 1868 and 1873 was greater than it had ever been in the history of the country.

If later panics (that is, the panics of 1884, 1893, 1903, and 1907) are studied, the same law will be found to hold true. Furthermore, by inverse reasoning from these same figures it will be found that years of prosperity may likewise be anticipated.

We can therefore confidently affirm that a period of abnormal increase in new building is almost sure to be followed by a "period of depression."

These illustrations are sufficient to show how deeply the investor's and merchant's interests are concerned in this subject. Whether a small storekeeper, a retailer, a manufacturer or a great merchant, his welfare is most intimately related to the total wealth of the country. Many lessons for all classes of people may be drawn from this fact.

The following are certain conclusions* relative to "Building Operations."

1. *During a Period of Business Depression.*

   (a) An increase forecasts better conditions.

   (b) A decrease forecasts continued depression.

   (c) No change signifies conditions to be stationary.

*Special Note: In using the rules — as also is true in regard to the rules given subsequently under other subjects — one must compare the present both with the corresponding month of the preceding year and with the preceding month of the same year. In other words, the merchant and investor when studying fundamental statistics or business barometers must not be misled by seasonal changes which are wholly normal.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase forecasts a period of prosperity.

(b) A decrease forecasts a set-back.

(c) No change suggests caution.

3. *During a Period of Prosperity.*

(a) A great increase usually calls for caution.

(b) A decrease may tend to lengthen the period of prosperity.

(c) No change signifies conditions to be stationary.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is indicative of further trouble.

(b) A decrease is natural under these conditions.

(c) No change suggests caution.

BANK CLEARINGS

Bank clearings are divided into two main classes:

(a) Total Bank Clearings of the United States.

(b) Bank Clearings of the United States with the exception of New York City.

In every large city, and many small ones having more than two banks, there is an institution known as a "clearing house." Each day at some given hour the representatives of all the banks in the city or town meet at one of the banks to exchange checks drawn on one another and such a bank thus serves as a temporary "clearing house." To illustrate: If customers of the Gloucester National Bank de-

posit during the day $20,000 in checks drawn on the Gloucester Safe Deposit and Trust Company and customers of the Trust Company deposit checks to the amount of $15,000 drawn on the Gloucester National Bank, instead of the Gloucester National sending a messenger to collect the $20,000 from the Trust Company and the Trust Company sending a messenger to collect the $15,000 from the Gloucester National, representatives of both banks meet and exchange checks and the Trust Company gives the Gloucester National a check for $5,000 to balance the account. This process of settlement is not of great importance in a city having only two or three banks, but the average importance increases rapidly as the number of banks increases. In large cities such as New York, Chicago, Philadelphia and Boston, the "clearing house" occupies a separate building and has regularly salaried employees.

The largest clearing house in this country is in New York City. It was established in October, 1858, and passes annually an average of about $100,000,000,000 in the form of checks. In all there are about 140 clearing houses or associations in the United States. In other words, there are about 140 cities of sufficient importance and with a sufficiently large number of banks to have clearing houses and to make public their "Clearings."*

Clearings serve as a very good barometer of

*For further particulars as to the details of clearings and the business of clearing houses refer to Jas. G. Cannon's most complete book on the subject, entitled "Clearing Houses," and also to "The Principles of Money and Banking" by Conant. For a very simple and condensed statement, refer to pages 80–86, inclusive, of "Money and Investments" by Montgomery Rollins.

present business conditions and the reason for this is as follows: Out of the 25,000 or more banks in the United States, about one-third are connected with one of the above-mentioned 140 clearing houses. This means that practically all of the checks handled by these thousands of banks, pass through some clearing house. Therefore by watching the record of the checks "cleared," we obtain an idea of the total business transacted by about 7,000 banks, which are the largest of the 25,000 and in fact control about nine-tenths of the banking of the United States.

As to-day practically all payments are made by check and all business is carried on through the banks, the volume of money handled by the banks by check increases or decreases in constant ratio with the general volume of business of the country, *provided that the prices of the commodities and securities traded in, remain constant.* Therefore, as the banks pass their business through the clearing houses, a report on bank clearings is a very good barometer of present business conditions.

Some people make the mistake of assuming that by studying clearing house statistics solely one can easily *forecast* business conditions. A study of these statistics *is an aid* in forecasting conditions, both along lines above mentioned and in connection with Prof. Irving Fisher's "Equation of Exchange"; but taken by themselves they are of little value. On the other hand, some critics do not care "to know about present conditions, but desire only to forecast future conditions." This point of view

is also illogical, as a knowledge of present conditions is a necessary step toward forecasting future conditions.

Were it not for the systematic reports received on bank clearings, our Composite Plot would be much less valuable. By a study of these clearings, as they are reported each week, one is in immediate touch with existing conditions throughout the country and is also able to study the "velocity of circulation," which, as it increases, is a form of credit inflation. In making use of these statistics two methods are used:

1. The bank clearings are plotted for each week for a number of past years with a horizontal scale for weeks and a vertical scale of billions. With one half inch to a week this makes a plot about thirty inches long. It is customary to have each year under the preceding year, a thing easily done, as each plot is of the same length, although the angle of fluctuations is not constant. This gives comparative plots for several complete years, directly under which appears a plot for the present year up to the receipt of the last report on bank clearings. This not only gives the merchant a bird's-eye view of the situation for the present year, but also an idea of what may be expected at different periods during the year. During some periods of the year poor figures on bank clearings are not, in reality, as unsatisfactory as if they had occurred at other seasons. The principal use of this plot, however, is to study the fluctuations of the last portion of the plotted line for the current year. In other words, the business man notes whether the variations of the

last few months plotted for the current year is upward or downward, and also how said variations compare with similar months of previous years, or in other words, with *normal* figures. If the plots for these previous years can be combined into one plot for an assumed normal year for purposes of comparison, the work is greatly simplified. This may seem to be a simple method of procedure, but when fully comprehended and carefully studied, it will be found to furnish not only a bird's-eye view of present conditions, but, in conjunction with a study of other subjects, the best possible idea of whether general business is becoming better, worse, or simply holding its own.

2. The other method is more mathematical and more readily operated. Instead of plotting the figures for a series of years, merchants simply tabulate the totals as follows:

Bank Clearings of U. S.		Bank Clearings of U. S. Excluding N. Y.	
Year	Total	Year	Total
1883	$51,643,495,673	1883	$14,209,194,801
1884	43,905,007,805	1884	12,919,136,635
1885	41,321,754,610	1885	13,169,553,274
1886	49,193,261,051	1886	15,513,431,439
1887	52,050,705,235	1887	17,566,148,967
1888	49,497,500,202	1888	18,397,472,681
1889	56,175,427,997	1889	20,280,223,092
1890	60,829,090,002	1890	23,370,482,393
1891	56,946,838,805	1891	23,197,539,593
1892	62,321,984,539	1892	25,659,515,337

Bank Clearings (continued)

1893	54,309,562,775	1893	23,048,525,045
1894	45,686,235,075	1894	21,298,428,055
1895	53,282,278,527	1895	23,506,684,638
1896	51,373,931,439	1896	22,304,476,717
1897	57,321,973,206	1897	23,894,945,735
1898	68,931,197,724	1898	26,959,415,287
1899	94,177,969,223	1899	33,416,297,332
1900	86,205,688,683	1900	33,771,486,823
1901	118,579,964,282	1901	39,152,278,440
1902	118,023,298,740	1902	41,695,109,575
1903	109,208,987,769	1903	43,238,849,809
1904	112,621,012,711	1904	43,971,594,038
1905	143,909,448,441	1905	50,087,388,239
1906	160,003,265,739	1906	55,327,436,983
1907	145,175,733,493	1907	57,993,565,112
1908	132,408,849,136	1908	53,132,968,880
1909	165,838,191,330	1909	62,249,402,999
1910	164,095,229,989	1910	66,820,729,906
1911	160,230,773,656	1911	67,856,959,831
1912	174,914,230,763	1912	74,170,263,509

Column 1 is for the bank clearings of the *entire* United States, and column 2 is for the United States *with the exception of New York City.* (*In practice these figures are subdivided into months and only the past eight or ten years are studied.*) As a second step, the merchant notes from the monthly tables the actual figures received for the current year to date and estimates the probable clearings for the remainder of the year. This may be illustrated somewhat as follows: The merchant notes what proportion the clearings for January, February and March have heretofore borne to the clearings of the entire country. (A novice might think it was simply necessary to multiply the clearings of three months by four in order to have an estimate for the entire year, but such a method is not correct, since it does not provide for the seasonal changes before alluded to.) By making a study of the relation that these three months bear to the entire year for several years back, it is possible to make a very good estimate for the entire current year even if only three months are reported. Having made this estimate, one compares it with the total figures for previous years and forms an opinion as to the probable business conditions for the current year. If the study is dropped at this point these figures would be of no value, but the merchant revises this estimate each month, as new figures are received, and also notices whether the revised figures are increasing or decreasing. In other words, by this second method, the one universally recommended, the merchant studies the statistics

to note whether each succeeding estimate is an increase or a decrease over the previous estimate. If the new estimate is an increase, this shows that business conditions are improving as marked by an upward line on the plot. If the new estimate is a decrease, it shows that business is decreasing, as marked by a downward line on the plot. If the new estimate is practically the same as the last one, this indicates that there may be no change either for the better or for the worse, as marked by a horizontal line on the plot.

The remaining point to be considered on the subject of bank clearings is the reason for separating the subject into the two main classes as per the preceding tables. The reason for this subdivision is as follows: The clearings of New York alone are more than one-half of those of the entire country. If these clearings were simply a result of commercial business transactions, that is, the transactions of merchants, manufacturers and business men, there would be no reason why the New York Clearings should not always be included with the clearings of other cities. The facts of the case, however, show that an exceedingly large percentage of New York clearings is affected by the transactions of bankers or is intimately related to the stock exchange transactions. This may be clearly shown by plotting two lines, one for the transactions of the New York Stock Exchange and the other for the bank clearings of New York. These lines, although very "zig-zag," are almost parallel to each other, and when one rises the other follows, and vice

versa. For this reason during dull times on the stock exchange, bank clearings of the United States *including New York* may show a decrease, even though general business throughout the country is increasing, while during a very active period on the New York Stock Exchange, the bank clearings of the entire United States *including New York*, may show an increase, even though general business throughout the country is decreasing.

For this reason, in order to judge correctly the general business of merchants and manufacturers throughout the country, it is best to consider the bank clearings of the United States *with the exception of New York City*. If the figures for the United States *with the exception of New York City* have been properly studied and a conclusion drawn, it is also well then to note the figures for the entire country, including New York City. If the figures for New York City confirm the conclusion arrived at when not including New York City, then the result may be considered absolutely correct. The most successful merchants *tabulate, each month, the sum of the figures for New York and those excluding New York, after first multiplying the latter by* 4 *or* 5, *as suggested by Prof. Irving Fisher of Yale University.*

Note 1. There are two exceptions which may be taken to using bank clearings as an index. One is the fact that, as banks consolidate, the ratio is improperly changed; the other is that bank clearings are increased by the increased cost of commodities and securities, as well as by the increased volume of trade.

The first objection need not be taken very seriously as consolidations have always been in process and, considering the number of banks, the number of consolidations are no greater to-day than ever. If this is so, the bank clearing figures are perfectly satisfactory for comparative purposes.

The other objection, that an increase in clearings does not necessarily mean an increase in the *volume* of business, is a valid criticism. It therefore is well to always note the change in the Commodity Price Index, which index shows how much allowance should be made when studying bank clearings.

Moreover, as a check on one's conclusion, it is well to note railroad tonnage and especially idle car figures, as the latter are wholly dependent upon the *volume* of business, and are independent of rates or prices. In fact, the only exception that can be taken to idle car figures is that the cars are increasing so much in size and the published figures do not include the cars in repair shops.

Note 2. It is pointed out also that clearings reported by one city may be reported also by another city. For example, the business of a branch house may be reported in the clearings of the city in which it is located and again as part of the business cleared by the main office in the home city. Just what the percentage of duplication is, it is impossible to determine, but it is probably small compared with the total clearings of the country.

The following conclusions are suggested relative to "Bank Clearings."

1. *During a Period of Business Depression.*

(a) An increase signifies that trade is improving.

(b) A decrease signifies that trade conditions are growing worse.

(c) No change signifies that trade conditions are remaining fixed.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies that trade is continuing to improve.

(b) A decrease signifies that the improvement has temporarily been checked.

(c) No change shows that progress is very slow.

3. *During a Period of Prosperity.*

(a) An increase shows that trade conditions are very prosperous, although too great an increase under such conditions often forecasts trouble.

(b) A decrease shows that a change is taking place and business is decreasing.

(c) No change at this point often is a sign that a change is about to take place.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies a temporary check in the decline.

(b) A decrease is the natural movement and signifies no improvement.

(c) No change shows uncertainty or possibly serves to delay the coming panic.

BUSINESS FAILURES

Every great crisis has been made known to the public by one or more large failures, sometimes accompanied by the exposure of dishonest methods, sometimes by political or national calamity; more often by the failure of some bank or number of banks in endeavoring to finance industries or new corporate undertakings. So failures, — that is large, single failures, — stand as signals of sharp crises, and the beginning of depression. They may be followed by other large failures and many small ones, so quickly that the total both in the number of failures and in liabilities for the panic year is swelled, as in 1893, far above the limits of other years just preceding and following it; or the failure record may move slowly and may require more than a year for any great change. Failure statistics, therefore, are of use principally in determining the probable length of a period of depression as shown by the following figures. From these it will be seen that after a crisis in no case has prosperity returned until failure statistics have again become normal.

FAILURE STATISTICS FOR THE UNITED STATES.

Table I.

Compiled from figures furnished by R. G. Dun & Co.

Year	No. of Failures	Liabilities in Millions	Year	No. of Failures	Liabilities in Millions
1857	4,932	291.8	1885	10,637	124.2
1858	4,225	95.7	1886	9,834	114.6
1859	3,913	64.4	1887	9,634	167.6
1860	3,676	79.8	1888	10,679	123.8
1861	6,993	207.2	1889	10,882	148.8
1862	1,652	23.0	1890	10,907	189.9
1863	495	7.9	1891	12,273	189.9
1864	520	8.6	1892	10,344	114.0

Year	No. of Failures	Liabilities in Millions	Year	No. of Failures	Liabilities in Millions
1865	530	17.6	1893	15,242	346.8
1866	1,505	53.8	1894	13,885	172.9
1867	2,780	96.7	1895	13,197	173.2
1868	2,608	63.7	1896	15,088	226.1
1869	2,799	75.0	1897	13,351	154.3
1870	3,546	88.2	1898	12,186	130.7
1871	2,915	85.2	1899	9,337	90.9
1872	4,069	121.1	1900	10,774	138.5
1873	5,183	228.5	1901	11,002	113.1
1874	5,830	155.2	1902	11,615	117.5
1875	7,740	201.0	1903	12,069	155.4
1876	9,092	191.1	1904	12,199	144.2
1877	8,872	190.7	1905	11,520	102.7
1878	10,478	234.4	1906	10,680	119.2
1879	6,658	98.1	1907	11,725	197.4
1880	4,735	65.8	1908	15,690	222.3
1881	5,582	81.2	1909	12,924	154.6
1882	6,738	101.5	1910	12,652	201.7
1883	9,184	172.9	1911	13,441	191.1
1884	10,968	226.3	1912	15,452	203.1

For example, note in the above table the year 1857, both in number and liabilities. Note that the crisis is indicated in the amount of liabilities, for while in 1858 the number of failures is still large, there is a reduction of liabilities amounting to more than 67 per cent. The next three years show depression by a relatively large number of failures; but they are of lessening average amount of liabilities. That statistics of failures may indi-

cate not only the length but the general character of a depression is proved particularly well from the course they take from the crisis year of 1873 to the height of the depression in 1878, and for a shorter period from 1893 to the culminating year of 1896. From the preceding table it is also evident that, while the average of liabilities per failure is less, the *number* of failures is often larger toward the end of a depression than during the crisis year.

FAILURE STATISTICS FOR THE UNITED STATES.

Table II.

Compiled by figures furnished by R. G. Dun & Co.

Year	Number of Failures	Liabilities	Average Liabilities	Liabilities per firm in business	Per cent failing
1875	7,740	$201,060,333	$25,960	$339.78	1.21
1876	9,092	191,117,786	21,020	305.15	1.33
1877	8,872	190,669,936	21,491	302.60	1.36
1878	10,478	234,383,132	22,369	259.49	1.55
1881	5,582	81,155,932	14,530	108.65	.71
1882	6,738	101,547,564	15,070	129.94	.83
1883	9,184	172,874,172	18,823	210.23	1.06
1884	10,968	226,343,427	20,632	261.94	1.21
1885	10,637	124,220,321	11,678	137.28	1.16
1886	9,834	114,644,119	11,651	124.60	1.01
1893	15,042	346,779,889	22,751	290.65	1.28
1894	13,885	172,992,856	12,458	155.25	1.25
1895	13,197	173,196,060	13,124	145.06	1.09
1896	15,088	226,096,134	14,992	190.57	1.31
1900	10,774	138,495,673	12,854	119.63	.92
1901	11,002	113,092,376	10,279	94.63	.90
1902	11,615	117,476,769	10,114	94.85	.93
1903	12,009	155,444,185	12,879	122.33	1.12
1904	12,199	144,202,311	11,820	111.33	.92
1905	11,520	102,676,172	8,193	78.75	.85
1906	10,682	119,201,515	11,159	86.52	.77
1907	11,725	197,385,225	16,834	139.75	.82
1908	15,690	222,315,684	14,169	153.58	1.08
1909	12,924	154,603,465	11,964	104.01	.80
1910	12,652	201,757,097	15,947	133.16	.80
1911	13,441	191,061,665	14,215	125.28	.81
1912	15,452	203,117,391	13,145	129.85	.98

From this second table we have another view of the usefulness of failure statistics. While, as in Table I, the panic years are also plainly marked in Table II, by the percentage of failures to the total number of firms in business, Table II, in addition, shows something new relative to business conditions.

Thus we find that up to 1878 the possibility of loss, that is the ratios of "liabilities" to the "number of firms actually in business," was large or increasing from year to year, as was also the case from 1893 to 1896; while, on the other hand, the effects of the crisis of 1903 gave place very quickly to prosperous conditions, surpassing any known in thirty years previous. Furthermore, from the "per cent of failures" to the firms in business, we find that such figures as 11,002 for the failures in 1901, and 10,478 for 1878 mark two degrees of depression more widely different than they would seem at first glance, and that the high number of 11,725 of 1907, or even 15,690 in 1908, indicate conditions much less severe than does the 7,740 of 1875.

But as the study of the past, however interesting as pure history, is here to be regarded only as a means of understanding the significance of current

changes, the points above mentioned are of value only in connection with the present day figures.

The figures of the year 1907 are of special interest in this connection. This year is known as a "panic year," and the events of the months following October with its signal failures of certain New York banks have become a part of history closely joined to present problems. While it is true that not one, but all factors, must be weighed together in estimating the comparative position of 1907 among critical periods, merchants, bankers and investors find something of special value in statistics of failures.

Statistics of the year are available in different forms. Divided into months, as is the customary way for merchants to compile them, there is meaning to be found in the year's record on lines similar to those used in the annual tables. The following figures for liabilities, expressed in millions, serve as illustrations: The "number" is omitted from these tables, but will be found on the Desk Sheet. If additional tables are desired, the "per cent to the firms in business" is recommended.

Table III.
LIABILITIES EXPRESSED IN MILLIONS

Month	1902	1903	1904	1905	1906
Jan.	$14.312	$12.978	$18.483	$10.417	$11.952
Feb.	11.302	10.907	15.812	9.780	10.859
Mar.	8.117	10.458	13.770	9.964	10.949
Apr.	7.359	11.811	13.136	8.056	8.059
May	9.109	12.314	9.817	8.907	12.992
June	10.173	8.326	8.469	8.777	7.850
July	6.932	16.751	8.812	6.148	6.919
Aug.	8.068	10.877	10.491	6.140	8.821
Sept.	10.031	7.229	12.864	8.039	6.255
Oct.	10.851	18.387	10.525	6.751	10.553
Nov.	9.276	16.422	8.535	8.866	11.980
Dec.	11.941	18.978	13.481	10.823	12.006

Month	1907	1908	1909	1910	1911
Jan.	$13.628	$27.099	$14.008	$32.015	$24.090
Feb.	10.283	27.064	16.734	27.435	17.086
Mar.	8.163	21.542	13.718	13.628	18.474
Apr.	11.082	20.316	16.825	17.752	16.924
May	9.965	13.643	14.383	9.590	13.469
June	16.445	14.708	12.607	11.817	13.652
July	12.334	14.222	9.527	13.790	12.150
Aug.	15.197	23.782	9.620	12.442	11.116
Sept.	18.935	17.298	8.446	15.933	11.900
Oct.	27.414	15.898	12.529	18.977	19.270
Nov.	17.637	12.599	9.812	11.324	15.266
Dec.	36.296	14.139	14.625	17.038	17.659

Month	1912	1913	1914	1915	1916
Jan.	$19.770	....	....	....	....
Feb.	21.477	....	....	....	....
Mar.	21.763	....	....	....	....
Apr.	16.874	....	....	....	....
May	15.277	....	....	....	....
June	12.847	....	....	....	....
July	16.098	....	....	....	....
Aug.	16.153	....	....	....	....
Sept.	13.280	....	....	....	....
Oct.	15.762	....	....	....	....
Nov.	15.646	....	....	....	....
Dec.	18.164	....	....	....	....

This table gives examples of what may serve as types of years. Thus 1903 had what was called "the rich man's panic," beginning with the stock market in the summer of that year and continuing into the next as shown very clearly by the table. The presence of business trouble is first indicated in July of 1903, when the amount of liabilities is very much increased; and this increase and this ratio remain practically unbroken for ten months. Normal years, also, such as 1905 and 1906, show heaviest liabilities between October and March, any increase between these points coming just before or just after the fiscal year.

While Table III is not in itself sufficient, the points just raised show the practical value of such figures. Even without knowing anything of the exact causes, a man with these figures at his hand could not have failed to think a little when, in the report for June, 1907, liabilities ran over 100% higher than in 1906 and nearly as much higher than 1905. As the new figures were received each month, and liabilities for the month of September reached an aggregate of nearly $19,000,000 compared with $8,039,947 for the same number of failures in September, 1905, surely the change in ratio could have told something very definite as to the approach of bad times. By the quickest, roughest estimates, the course of affairs can be very plainly traced by having these failure statistics at hand.

While to obtain accurate comparisons of the progress of the current year, as compared with others, more close calculating of the percentage in gain or loss *per firm in business is always required*, yet such work yields a good return.

The following table (Bradstreet's) is also of interest in connection with analyses of failures.

PERCENTAGE OF FAILURES AND LIABILITIES CLASSIFIED AS TO CAUSES — UNITED STATES. (PER CENT.)

	Number				Liabilities			
Failure due to....	1907	1906	1905	1904	1907	1906	1905	1904
Incompetence....	22.6	22.3	24.4	23.1	8.9	15.5	21.6	14.1
Inexperience.....	4.9	4.9	4.8	5.1	3.2	2.2	2.1	3.2
Lack of capital...	37.1	35.9	33.4	32.2	18.4	30.9	33.0	31.8
Unwise credits....	2.3	2.6	3.5	3.4	3.1	2.1	4.2	4.8
Failures of others.	1.4	2.0	2.2	2.5	3.3	8.8	4.5	8.2
Extravagance....	.9	1.0	1.1	.8	.5	.9	1.2	.7
Neglect.....	2.5	2.2	2.9	3.1	.5	1.5	1.1	1.6
Competition.....	1.2	1.0	1.5	1.3	.4	.4	.9	1.0
Specific Conditions	16.3	17.3	16.3	19.1	51.7	17.9	15.5	22.7
Speculation.....	.7	.8	.7	.8	4.9	3.6	7.7	5.3
Fraud.....	10.1	10.0	9.2	8.6	5.1	16.2	8.2	6.4

	Number				Liabilities			
Failure due to....	1911	1910	1909	1908	1911	1910	1909	1908
Incompetence....	27.0	26.6	24.2	21.6	23.5	21.3	20.9	16.0
Inexperience.....	4.1	4.4	4.9	4.0	2.2	1.9	2.6	1.8
Lack of capital...	31.4	33.9	34.5	34.2	28.3	27.9	28.6	27.2
Unwise credits....	2.0	1.7	1.9	2.0	2.2	1.9	3.2	3.7
Failures of others.	1.3	1.0	1.2	1.8	4.2	3.1	5.9	5.0
Extravagance....	.9	.7	.9	1.0	1.2	.5	2.3	.9
Neglect.....	2.2	2.5	3.0	2.2	1.3	.9	2.1	.8
Competition.....	2.9	2.6	2.5	1.8	4.8	1.9	1.4	1.7
Specific Conditions	16.9	14.4	15.3	18.9	20.7	21.1	20.2	31.3
Speculation.....	.7	1.0	.8	1.0	2.7	7.4	4.4	4.7
Fraud.....	10.6	11.2	10.8	11.5	8.9	12.1	8.4	6.9

	Number				Liabilities			
Failures due to	1915	1914	1913	1912	1915	1914	1913	1912
Incompetence...	....	....	....	30.2	....	....	....	26.8
Inexperience....	....	....	....	4.6	....	....	....	3.0
Lack of Capital..	....	....	....	29.7	....	....	....	33.5
Unwise Credits..	....	....	....	2.0	....	....	....	2.6
Failures of others	....	....	....	1.3	....	....	....	4.9
Extravagance...	....	....	....	.7	....	....	....	.9
Neglect.....	....	....	....	2.0	....	....	....	1.0
Competition....	....	....	....	1.9	....	....	....	1.3
Specific conditions	....	....	....	16.5	....	....	....	13.8
Speculation.....	....	....	....	.8	....	....	....	3.4
Fraud.....	....	....	....	10.3	....	....	....	8.8

For example, if 1907 showed, as is claimed, 37.1% of failures due to lack of capital, and if figures show that this cause is increasing year by year, it means clearly that the beginnings of new enterprises must be increasingly well supported, as it grows more difficult to add to inadequate capital when money rates are high or when competition makes it imperative to expand. As inexperienced and comparatively incompetent heads must continually join the business ranks, constant watching of the details

of failure statistics is a practical necessity for them as well as for those whose money is invested in their interests.

As Bradstreet's table excludes all losses except those strictly commercial, that is, it includes those failures involving loss to creditors of individual firms or corporations engaged in legitimate mercantile occupations, they cannot be compared, figure for figure, with the tables from other sources; but believing that the figures due to failure in insurance, real estate, brokerage, etc., do have a distinct effect upon general business conditions, the analysis of these also should be a part of a study of the whole subject.

Certain further facts should be mentioned here as bearing upon this question. One of these we have already suggested, namely: that as the country advances, statistics furnish evidence that the "commercial death rate" is growing less. The decrease is as yet not one half of one per cent, but the rate is being reduced from 1½% maximum to something under 1%. Of course we should like to believe that this is a permanent improvement in business intelligence, but this point the future alone can prove.

Another law recognized by merchants and already suggested in this discussion, is that small firms do not feel the effect of a panic or depression until some time after the effect is felt by the larger firms. For this and other reasons the study of this subject is especially valuable as a guide and protection to small merchants and storekeepers.

In conclusion I will repeat that figures on business failures are of greatest value to all in determining what the length of the present "period" will be, and how soon one's own business and that of others, in which he has greater or less investments of capital, may be expected to show a change. When the flood begins to subside from its high water mark, a study of the rate at which it is subsiding, and a knowledge of the condition of each tributary stream assists very much in estimating the time when seed may be planted in the rich bottom land, now under water, or *inversely* as the case may be. We need not carry this figure of speech further in order to show that it contains the idea upon which merchants rate the study of *Business Failures* as of fundamental importance to their progress. For such study is but a part of a system by which they may know exactly the conditions upon which the next move should be based, and upon the result of which depends the subsequent course of the business life of each individual.

The following conclusions are suggested relative to "Business Failures."

1. *During a Period of Business Depression.*

(a) An increase signifies that the depression is not ended.

(b) A decrease, after a large increase, signifies continued improvement.

(c) No change signifies that caution i still necessary.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase in failures signifies that the improvement has been temporarily checked.

(b) A continued decrease signifies continued improvement.

(c) No change signifies that caution is still necessary.

3. *During a Period of Prosperity.*

(a) An increase in failures, especially of large concerns, signifies that no further improvement may be expected.

(b) A great decrease signifies the need of caution.

(c) No change signifies nothing of importance.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies no immediate improvement.

(b) A decrease signifies a temporary check in the decline or an improvement.

(c) If there is no change the figure need not be considered.

IMMIGRATION FIGURES AND LABOR CONDITIONS

The general subject of labor conditions is of importance in diagnosing present business conditions and in forecasting changes which may be expected. But labor interests involve so many factors and include so wide a field of investigation that, with the statistics at present available, it is absolutely

impossible to compile figures that are sufficiently complete to tabulate for comparative purposes. It is hoped that some day either the labor unions or the government will find some practical means of keeping exact records of the number of men out of work, the rate of wages in effect and other items necessary for this purpose.

At present the only complete figures are the census reports compiled once in ten years, and partial figures of some of the states reported only once in five years, but neither set of figures is of much use to the business man. There are also certain states which, in connection with the public employment bureaus, publish a classified list every week or month entitled "applicants desiring work"; but these lists are very incomplete and their records are of little more practical use than are the similar records kept by the leading charitable institutions. If every city or charitable institution did the work thoroughly and kept the dead matter weeded out, their records would be worth while, although they might cover but a small portion of the country. The same could be said of the labor union figures. These, if kept properly and accurately for a definite period and area, would be very valuable to manufacturers and business men; but under present conditions they are at the most only suggestive, and not fit for precise analysis. Of all available statistics, those coming from the Commissioner of Labor may be most depended upon; and though monthly reports of the same sort would be of distinct value for the purposes of fundamental statis-

tics, no such satisfactory figures can now be obtained.

For either determining the present trend or forecasting the approaching conditions, only figures which can be used for *comparative* purposes are of value. It is not necessary to have monthly figures covering a large section of the country, but *they must cover the same section of the country* at each statement. It makes little difference whether the reports are issued weekly or monthly; but it is of vital importance to systematic work that *each report should cover the same period of time*, — that is, either one week or one month regularly. Therefore while there are to-day many organizations preparing figures which may, after a time, become of distinct value for comparative purposes, none of them have yet reached this point, — with the possible exception of those from the Immigration Department of the United States.

The immigration figures are issued monthly, each report covering the same ports, and these figures are carefully tabulated by all systematic manufacturers and merchants.

One of the valuable features of the present day method of studying fundamental statistics under twelve general headings, is that under each general heading or group, sub-topics can be added at any time, extending over an increasing amount of subject-matter. For example, the subject of this group is "Labor Conditions" and at the present time the only figures tabulated are those on immigration; but as soon as suitable reports from the labor unions, charitable institutions, or other

sources are obtainable, additional tables can be inserted for these additional figures. All such subjects, accurately reported, will contribute to an exact understanding of the condition of labor in this country. In other words, in the preparation of the Composite Plot, the same amount of weight will continue to be given to "Labor Conditions" as formerly, but in arriving at decisions as to labor conditions more factors will be considered.

As a barometer of labor conditions, immigration figures are extremely good. The steamship lines maintain a balance in the supply of labor between the United States and Europe. Labor, like water, seeks its own level, when both living expenses and wages are considered. Of course, if it costs five times as much to live in New York as in Italy, the Italian laborer will not come to this country for simply five times the wages that he receives at home, provided the *demand* for labor is the same in each country. Therefore, living expenses, as well as wages, must be considered. On the other hand, if the Italian can obtain wages in New York equal to ten times what he will receive in Italy, he will board a steamer for the United States, even with the expenses in New York five times as great as at home. Such high wages the Italian may always obtain in America in times of prosperity, and especially in times just preceding the culmination of a period of prosperity.

Conversely, when this period culminates, the demand for labor decreases, wages decrease and the Italian boards a steamer and returns to Italy.

Therefore, as the Government keeps a careful record of when the immigrant enters the country and when he leaves, this report is an extremely good barometer of unskilled labor conditions in the United States. Of course under almost any circumstances there are more people coming into a new country, like the United States, than there are going out, but the size of this excess number is very sensitive to changing conditions in the country as a whole.

By studying and comparing the figures of the past twenty years, it will be seen that a crisis or depression in business conditions came soon after very high figures for immigration were reached. It is likewise true that there was an improvement in business conditions when, during a period of depression and very little immigration, there began to be an increase in immigration. In other words, very large numbers of alien arrivals during a period of prosperity may be counted as one of the factors signifying a culmination of such a period of prosperity. Conversely, a very low number of alien arrivals during a period of depression is one of the factors significant of better business conditions.

As is the case with most of the others of these subjects studied by bankers and merchants, an increase or a decrease does not at all times mean the same thing under all circumstances. Sometimes an increase is a dangerous sign and sometimes a decrease is a dangerous sign. These things cannot be reduced to a rule of thumb, but the merchant must use his judgment to a certain extent. The rule given above, however, is almost infallible. As

years go on, it is more and more necessary also to tabulate *emigration* figures in order to ascertain the net change.

There is also another reason why these various figures are of interest, namely: because the number of aliens entering or leaving the country is not only a barometer of business conditions, but it is also influential in the trend of such conditions. When a foreigner enters this country, he usually brings a little money, for he knows that he will need a place in which to sleep while here and must have some food and clothes. On the other hand, when leaving the country he takes from circulation a certain amount of money which is almost invariably many times what he brings into the country. In addition he directly reduces the income of some landlord and the business of some small grocer and dealer in second-hand clothing.

Therefore, very large immigration figures during periods of prosperity mean that there are many people who will be obliged to leave the country as soon as the period of prosperity culminates, and therefore the reaction will be greater and even more severe than if they had not entered the country. In the same way an increase during a period of depression not only signifies better conditions, but these people entering the country are themselves the means of creating better conditions both by the amount of money which they bring with them and the business which they create after arriving.

Hence the necessity of tabulating monthly figures on immigration.

The following conclusions are suggested relative to immigration figures.*

1. *During a Period of Business Depression.*

(a) An increase after a distinct decrease shows that conditions are improving.

(b) A continued decrease signifies that as yet there is no improvement.

(c) No change signifies that conditions are at a standstill.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no immediate improvement.

(c) No change signifies caution.

3. *During a Period of Prosperity.*

(a) A great increase signifies no further improvement or a decline.

(b) A decrease signifies that the corner is being turned and a decline may be expected, and thus calls for caution.

(c) No change signifies continued improvement.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies a temporary improvement.

(b) A decrease signifies no improvement.

(c) No change signifies nothing definite.

*These figures have special bearing on the demand for unskilled labor in the United States.

CHAPTER VII.

SUBJECTS RELATING ESPECIALLY TO MONETARY CONDITIONS.

(For figures for years later than those given, see the large sheet in the Addenda at the end of this book.)

MONEY IN CIRCULATION

THIS subject may, at first thought, seem uninteresting and of little concern to the merchant or manufacturer; yet, as a matter of fact, the "Amount of Money in Circulation" is of vital interest not only to the merchant and manufacturer, but also to the humblest store-keeper and day laborer.

The trade of the corner grocery store is regulated by the amount of money in circulation in the neighborhood; and the amount of money in circulation in the neighborhood is dependent upon the amount circulating in the entire country. As the local banks in every small town have deposits in some large city such as New York, Chicago or St. Louis, money cannot be abundant in one city and scarce in another, except for a very short time. The banks of the various cities are so related through the great banking institutions of the large cities, that money — like water — immediately seeks its own level. As a result, all parts of the country must prosper or suffer in accordance with the amount of money in circulation. The store-keeper must, therefore, study figures of the entire country, and not simply the conditions in his own town or in his own neighborhood.

Many a mill has been closed and many a laborer been thrown out of employment because employers could not obtain enough actual money to pay wages. In times of prosperity such conditions are hard to conceive; nevertheless, they have happened and will recur. Sometimes mills continue to operate by paying their employees by check, although this is a very unsatisfactory method unless the checks can be readily cashed. We know of one city in Massachusetts where for several weeks in 1907, all of the factory hands and clerks were paid by checks, and moreover by checks marked "Payable only through Clearing House." Checks so marked cannot be cashed. The holders can only deposit them in the bank and draw new checks against them; and, since these new checks were also marked "Payable only through Clearing House," it was still impossible for the employees to obtain their cash. As 95% of the employees had no bank account, the only practical method was for each to give his check to one of the local store-keepers, receiving credit for the amount. As the man was obliged to leave the full amount of the check at one store, he found it advisable to select a large department store, carrying dry goods, groceries, medicines and other goods. The result was that the business of the small store-keepers, excepting that derived from their regular "charge" customers, was almost ruined during this period; the business of a store, the cash sales of which ordinarily amounted to $100 a day, decreased to only $10 a day. This is but one illustration; it shows, nevertheless, how vital an

interest even the humble classes have in the amount of money in circulation.

It is of equal importance to the large merchants and to the manufacturers. The small retailer who buys only what goods he can sell, immediately, ceases purchasing as soon as his business diminishes. This immediately affects the business of the manufacturer, who in turn ceases to purchase from the large producers. Since the small manufacturer buys new material only as needed for actual manufacture, he ceases to purchase in direct proportion as he reduces his help. The great merchants and manufacturers do not feel the effect, possibly until later; but when the blow does come, they feel it to a greater extent than the small dealer. It may be plainly seen, therefore, that the amount of money in circulation directly affects every one, whether laborer, clerk, small store-keeper, merchant, large manufacturer or the railroad company which transports for all.

The Terms Defined.

In the discussion of this subject, two different "amounts" are referred to, viz.:

1. The ***net amount*** of working money in circulation.

2. The *gross amount* of money per capita, whether hoarded or in use.

These two amounts may be defined as follows:

The "*net* amount of working money" means the amount of money held by the banks subject to check. When a farmer deposits in his bank money received from the sale of cotton in Liver-

pool, he *increases* both the net amount of working money in circulation, and the gross amount. This is likewise true when a bank imports gold from abroad; while the reverse is true when Americans spend money in Europe or when money is sent abroad in payment for securities held in Europe. When, however, a depositor becomes frightened, withdraws money from a bank, and hides it in his house or in a safe deposit box, he *decreases* the net amount of working money in circulation; but does not decrease the gross amount.

But "the net amount of working money in circulation" is affected in another way, namely: by the amount of money that each man is carrying in his pocket. If a man carries eleven dollars in his pocket instead of one dollar, he seldom realizes that the act is affecting the financial condition of the country; but if 15,000,000 working men in the United States should do this same thing, it would make a difference of $150,000,000 in the net amount of working money in circulation, or a difference of $500,000,000 in the banking resources of the country. Thus the net amount of working money in circulation represents the amount which is actually in the banks or actually at work in commerce and industry; it does not include idle money stowed away in pocket-books or safe deposit boxes.

"The *gross* amount of money per capita" includes all money in the United States whether it is in the bank or buried in the ground, at work or idle. All money in the safe deposit boxes and in the pockets of individuals is counted in this item. This at the

present time amounts to about $35.00* per capita based on the estimated population of the United States. The gross amount of money per capita simply represents the total of the gold and silver coins and bills and bank notes in existence, wherever located in the United States. It has been estimated that in order to keep this figure in the vicinity of $34 or $35 per capita, it is necessary to create or import, about $50,000,000 net in coin and bills each year.

Experience has shown that the "*net* amount of working money in circulation" cannot be forecasted by figures, but is dependent rather upon sentiment. In other words, instead of being dependent upon the financial condition, it is dependent rather upon the sentiment of the people. This net amount in circulation may remain practically constant for years until some large failure, scandal or rumor of war comes, when the people lose confidence and money stops circulating. In such cases everybody holds all he has in his possession and free circulation is stopped or retarded. Thus the *net amount* of working money is often independent of the *gross amount* of money in circulation. Should a rumor be published in the morning papers that some great financial institution is in a critical condition, the *net* amount of money in circulation would immediately be affected to a greater extent than would be possible through years of legislation; but the *gross* amount of money would remain constant. Furthermore, such rumors, failures or scandals are the

*The government figures, however, are not correct, being only a guess.

best warnings of impending contraction of the net amount of money in circulation. The study of statistics in such instances is of little value. In other words, as soon as such a thing happens, the merchant may be reasonably certain that his trade will be diminished, and the effect of his curtailment will be felt by the manufacturers, the merchants and the railroads.

On the other hand, the merchant should be equally on the watch for the time when confidence will be restored and when the people will decide to part with the money they have been hoarding. As it is human nature to hoard money in case of trouble, it is also human nature to forget this trouble quickly. Moreover, people seem unable to withhold money from circulation beyond a certain length of time; they become uneasy under the loss of interest, and it finally occurs to them that their money is in more danger in their houses than when deposited in a bank. Thus periods of financial stringency, which are caused by the temporary withdrawal of money from circulating, are invariably followed by a great increase in the net amount of working money. *Nevertheless, the business of the merchant does not increase directly in proportion to the increase of the net amount of working money.* While business falls off as soon as the *working* money decreases, the reverse is not true.

When mills are closed and people are out of employment, they acquire frugal habits, and after the mills again start, they do not at once begin to spend; but they deposit their savings in a bank.

The fact remains, nevertheless, that after these periods of fright, money becomes very plentiful with the banks and interest rates become correspondingly low, with a slow but gradual increase in business. As the efficiency of money depends upon its rapidity of circulation, a contraction in the net amount of working money always causes a decrease in general business which requires some time to return to a normal state.

In the case of the "*gross* amount of money per capita," entirely different laws prevail. To quote from Theodore E. Burton's admirable book entitled "Crises and Depressions":—"Paradoxical as it may seem, the starting point for crises and depressions may be found in abundance rather than in scarcity, whether in money or in capital." Here he refers to the "*total gross amount of money per capita*" or the figures which are studied under fundamental statistics. The best statistics available may be obtained from tables prepared each month by the U. S. Government. In general, these figures usually show a continued increase up to a certain point, at which time a panic or a depression comes over the country. *This is due to the fact that panics and depressions are so often caused by over prosperity. Therefore this gross amount of money per capita is a good barometer of prosperity.* If the gross amount of money in circulation, as reported by the government, shows a steady increase per capita for several years and the country is prosperous — mills running over time, labor in great demand, and everybody happy and contented — then the merchant and manufac-

turer should be on the watch for a turn in the tide. In other words, too large an amount of money per capita is sure to be followed by a period of disaster and trouble. As "pride cometh before destruction and a haughty spirit before a fall," so it is likewise true that "a large amount of money appeareth before a panic and a period of luxury before a period of depression."

The following conclusions may be of interest relative to "Money in Circulation"; but the reader should also study Prof. Irving Fisher's book.*

1. *During a Period of Business Depression.*

(a) An increase signifies declining money rates, or more satisfactory conditions.

(b) A decrease signifies higher money rates or less satisfactory conditions.

(c) No change signifies nothing important.

2. *During a Period of Business Improvement.*

(a) An increase forecasts better conditions.

(b) A decrease forecasts a check or setback.

(c) No change suggests nothing of importance.

3. *During a Period of Prosperity.*

(a) A large increase calls for caution.

(b) A sudden decrease signifies higher money rates and calls for caution.

(c) No change signifies continued prosperity.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase forecasts continued unsatisfactory conditions.

*The Purchasing Power of Money, by Irving Fisher, Professor of Political Economy at Yale University. The Macmillan Co.

(b) A decrease forecasts higher money rates and continued unsatisfactory conditions.

(c) No change suggests caution.

REPORTS OF THE COMPTROLLER OF THE CURRENCY

Each national bank is required to make five reports a year to the Comptroller of the Currency. The reports are verified under oath by the president and cashier, and are attested by at least three directors of each bank. They give in detail the resources and liabilities of all national banks at a date specified by the Comptroller, and always previous to the date of the call. Each report must be mailed to the Comptroller within five days after the request is made for it. Such reports are the basis of a most useful examination of the banking situation, as they include not only figures from all national banks but also annual supplementary figures relative to other banks.

These figures should be studied both independently and in their relation to one another. In other words, the "ratios" should be studied and compared. This is one of the principal features of these reports as used in connection with the study of "Fundamental Statistics." They will be found more fully explained under the headings of "Loans" and "Cash."

LOANS OF THE BANKS

In analyzing reports of the Comptroller of the

Currency, four distinct lines of investigation are followed, namely:

(a) The ratio of bank "Loans" to bank "Resources."

(b) The ratio of bank "Loans and Investments" to bank "Resources."

(c) The ratio of "Cash" in the banks to the " Deposits."

(d) The ratio of the "Cash" in the banks to the "Resources."

These four distinct subjects should be studied independently before making any deduction or forecasting business conditions. It is also instructive to study the relation of loans to deposits. Then (a) should be compared with (b), and (c) with (d). In order to save time and space, the first two are here treated together, and the second two are treated together under another heading.

Bank Loans: Bank loans include notes, discounts, overdrafts and all other forms of so-called liquid assets. Banks when first organized were expected to serve two purposes: they were to receive money on deposit and they were to loan it to depositors, with the understanding that all deposits could be withdrawn and all loans called for payment at any time. The most ideal conditions are to be found where banks still keep most closely to the standard above laid down. All of the assets of a bank other than cash on hand, etc., should consist of loans that can be liquidated within six months. Therefore the term "Loans and Discounts" would include all notes, etc., which are either payable on demand or

are payable within six months or a year at the utmost.

Investments: In reality, a bank is loaning money to a corporation whether it purchases its fifty-year debenture bonds or its six-months notes. In either case the security is the same and the interest may be the same. For an investor, the fifty-year bonds, if properly secured, are often a more practical purchase than the notes; but for a bank the same statement cannot be made. Strict adherence to the original principle of banking often demands that a bank shall refuse to purchase the bonds of a corporation of which it may willingly accept the notes.

Notes when purchased by banks may be listed under the head of "Loans and Discounts," but bonds so purchased must be listed under the head of "Investments." The national law forbids the purchase by national banks of real estate, except as a building site, or real estate mortgages, because real estate cannot be readily sold, even though in many cases it is the safest form of investment. Logically there seems to be no reason why a national bank should be allowed to buy fifty-year bonds and forbidden to purchase improved real estate, but the fact that the prohibition is made shows that the spirit of the law is against all forms of permanent investments. Therefore, by such reasoning, all stocks, bonds and notes, which do not mature for six months or more, come technically under the head of "Investments." As there is no law which states exactly the difference between "Loans" and

"Investments," banks differ regarding the definition, many banks placing under the head of loans, even such short term notes as do not mature for two or three years.

Resources: The "Resources" of a bank are the same as the resources of any individual or nation. They include the notes, discounts, loans, stocks, bonds, real estate and other property which the bank holds. When a bank makes an appraisal of its total assets, figured on a conservative basis, the resulting figure represents the "Resources." The greater the proportion of "Loans" to "Resources," the less normal are banking conditions.

We think that the above definitions in themselves are sufficient to convince the reader of the truth of the following statement:

(1) *The banking situation of the country becomes more critical as the proportion of loans to resources increases, and improves as the proportion of loans to resources decreases.*

If all national banks confined themselves to loans and discounts, and made no permanent investments, excepting to the extent of their capital, it would be a very easy matter to judge the conditions in accordance with the above rule. As, however, practically all banks are placing more and more funds in permanent investments, that item must be independently analyzed and the above rule must be supplemented by the following:

(2) *With a given fixed ratio of loans to resources, conditions become more critical as the proportion of investments to resources increases, and conditions im-*

LO

Date	Banks Reporting
1865	1,960
1866	2,267
1867	2,279
1868	2,293
1869	2,354
1870	2,457
1871	2,796
1872	3,066
1873	1,968b
1874	1,983b
1875	3,336
1876	3,448
1877	3,384
1878	3,229
1879	3,335
1880	3,355
1881	3,427
1882	3,572
1883	3,835
1884	4,111
1885	4,350
1886	4,378
1887	6,179
1888	6,647
1889	7,203
1890	7,999
1891	8,641
1892	9,338
1893	9,492
1894	9,508
1895	9,818
1896	9,469
1897	9,457
1898	9,485
1899	9,732
1900	10,382
1901	11,406
1902	12,246
1903	13,684
1904	14,850
1905	16,410
1906	17,905
1907	19,746
1908	21,346
1909	22,491
1910	23,095
1911	24,392
1912	25,195

b—*Number of national*

prove as the proportion of investments to resources decreases.

In other words, provided a constant relation exists between the funds loaned and the total resources, the general banking situation is strengthened whenever a bank disposes of long term bonds and reinvests the money in high grade commercial paper; conversely the general banking situation is weakened whenever a bank purchases long term bonds with money received from deposits or from the payment of high grade commercial paper. Therefore, any one studying these conditions should note two things:

(1) Whether the proportion of "Loans" to "Resources" is increasing, decreasing, or remaining fixed.

(2) Whether the proportion of "Investments" to "Resources" is increasing, decreasing, or remaining fixed.

Although the most careful students consider these terms separately, we think it is generally safe to combine the two ideas in the one general rule, as follows:

As the ratio of "Loans and Investments" to "Aggregate Resources" increases, the banking situation becomes more critical; and as the ratio of the two combined items to "Aggregate Resources" decreases, the banking situation improves.

The accompanying table shows the record of the national, state and private banks and trust companies of the United States reporting to the Comptroller between 1865 and 1912. A study of these

figures, in connection with the other subjects, makes it possible to forecast nearly every period of depression and every period of prosperity which this country has experienced since the Civil War. These figures cannot be expected to foretell the exact time when crises or panics will occur, owing to sudden catastrophes such as earthquakes, wars, assassinations, etc., but they invariably forecast the large swings. They clearly show when conditions are becoming abnormal and when the pendulum is swinging too far from the perpendicular. These figures date back only to the Civil War, as the system of national banks was not established until 1863. Consequently this is the only period which gives satisfactory data to form a basis for any theory regarding the relation of banking conditions to general business, and conversely, the effect of business conditions upon banking conditions. The latter clause is added because, although strained banking conditions cause a recession in general business, it has always been found true that great activity in business has caused strained banking conditions.

Therefore, when business has been very active and the country very prosperous, bankers may surely anticipate strained and critical banking conditions. Conversely, when strained banking conditions have existed for a certain period, business men may be sure of a reaction. The figures show that after a period during which there was a more or less noticeably rapid increase in the ratio of "Loans and Investments" to "Resources," there

followed invariably a period of depression until the ratio was reduced to a normal point. From 1887 to 1897 the "Loans and Discounts" increased only 43% and the "Investments" 73% against an increase in aggregate resources of 50%. This was a normal and healthy increase and all observers were sure that the country was preparing for a period of marked prosperity, but between 1897 and 1907 the "Loans and Discounts" increased 155% and the "Investments" 153% against the increase in "Resources" of 151%. It was due to these figures that the bankers and investors who carefully study all fundamental statistics were sure that the country was entering a period of decline. Such figures showed a period of depression to be absolutely necessary in order to give the banks an opportunity to recuperate and again enjoy healthy and normal conditions. These figures are still more dangerous when it is considered that during the period between 1887 and 1897 the aggregate "Resources" showed an increase of 50%, even though the market value of securities was not increasing.

During the ten years between 1897 and 1907 the increase in aggregate "Resources" was largely due to the inflated prices and the growing market value of securities held, and possibly not at all to larger numbers of investments. These changes, it is true, have been irregular rather than constant and have caused varying conditions of strength and weakness in the banking situation; but the figures plainly indicate that in 1906 banks were in a very weak condition with their investments over-extended. The

above figures would appear somewhat different if figures of all private banking houses, such as J. P. Morgan & Co., Kuhn, Loeb & Co., and others were included, but nevertheless they are sufficient.

Referring to earlier years, we see that in 1873 the ratio of "Loans" to "Resources" first exceeded 50% and in fact reached a ratio of 52.71%. Consequently a panic occurred in that year. The ratio of "Loans" to "Resources" continued to increase to 54.13% and 54.55% in 1874 and 1875 respectively, and the prolonged depression was probably due to this continued increase. Moreover, this item remained practically unchanged until 1879 when the liquidation was completed. "Loans and Discounts," which in 1873 were $1,439,900,000, after reaching $1,748,100,000 in 1875, were reduced in 1879 to $1,507,400,000. This condition of the banks enabled them to loan money at low rates of interest and again accommodate legitimate enterprises. Consequently, business increased marvelously from 1879 to 1883.

During this period, however, loans had again rapidly advanced, — as is shown by the table, — and remained practically fixed between 1883 and 1885. During this period, that is in 1884, a sharp panic occurred which might readily have been anticipated. Although distress was felt in every part of the United States, it lasted only a short time in comparison with that of 1873. The banks were able to reduce their ratio of "Loans and Investments" to "Resources" so quickly that the ratio which stood at 77.96 in 1884 was reduced to 72.83

in 1885. Consequently, business became again more active, mills resumed operation and railroad earnings began to increase.

In 1886 the new period of prosperity, with advancing prices, was in full swing. This movement continued without any marked change until the early nineties when "Loans" reached a very high proportion, 60.57%. Large crops in this country, with small crops abroad, helped to postpone trouble for a time, but a depression came in 1893 when the ratio of "Loans" to "Resources" was even higher than in 1890, namely 60.74%. All business men and investors who were then studying these figures were absolutely sure that a panic would ensue.

Another disturbance came in 1903 which, although short, was certainly severe. Railroad earnings decreased, mills shut down, many men were thrown out of employment and money rates were very high. Again the western farmer came to the rescue of the country, and owing to bountiful crops and other reasons, mills again started and business improved. This continued until 1907. During these years, however, there was no real improvement in the banking situation except for a short time. In 1904 money was very cheap, but only temporarily. Banking conditions became worse and worse so that students of the situation were sure that the improvement from 1904 to 1906 would be followed by a depression in 1907 when the banks might again have an opportunity to recuperate. This recuperation was completed in 1908, and very soon banking conditions were again normal.

The great value of this data to the investor is self-evident. When the ratio of "Loans and Investments" to "Resources" is abnormally high, the country is abounding in prosperity and securities are selling at high prices, the wise investor sells his securities and places his money on deposit in strong banks. On the other hand, when the ratio of "Loans and Investments" to "Resources"* is low, and when, although business is dull and mills are not running, his general knowledge of the situation shows that fundamental conditions are sound, the investor will withdraw his money from the banks, purchase high grade stocks and bonds and hold them until business again becomes active.

While in the previous table we have given aggregate figures for all banks, in order to show general banking conditions, such figures are also of service relative to the condition of two or more banks. A depositor should select a bank whose ratio of "Loans" to "Resources" is comparatively small and should especially avoid banks with large "Investment" accounts, — so large as to show a policy not in agreement with sound management.

In the weekly New York Bank Statement, the meaning of "Loans" is self-evident. A very small figure for "Loans" is not a good sign, neither is a very large figure. The former signifies stagnation, the latter over-extension. It is important that the figure be normal, and that it bear a proper relation to the

*Some prefer to substitute "Deposits" in place of "Resources," and in that way check their conclusions, as the "Loans" should not much exceed the "Deposits."

figure for "Deposits," — thus giving a sound, safe amount for "Surplus Reserve."

The following conclusions regarding the ratio of "*Loans*" to "*Aggregate Resources*" are suggested. The same principles apply to the ratio of "*Loans and Investments*" to "*Aggregate Resources.*"

1. *During a Period of Business Depression.*
   (a) An increase in the ratio signifies renewed activity.
   (b) A decrease signifies a further recession in business.
   (c) No change signifies continued dullness.
2. *During a Period of Improvement Following a Period of Business Depression.*
   (a) An increase in the ratio signifies increased activity.
   (b) A decrease signifies a temporary recession.
   (c) No change calls for special watchfulness.
3. *During a Period of Prosperity.*
   (a) An increase in the ratio signifies unsatisfactory fundamental conditions.
   (b) A decrease tends to prolong the period of prosperity.
   (c) No change signifies nothing of importance.
4. *During a Period of Decline Following a Period of Prosperity.*
   (a) An increase in the ratio signifies further trouble.
   (b) A decrease is the natural movement.
   (c) No change calls for special watchfulness.

CASH IN THE BANKS

This subject may be considered in two ways:

(1) Ratio of the "Cash" in the banks to the "Deposits."

(2) Ratio of the "Cash" in the banks to the "Resources."

In reality these are two entirely different subjects, as the "Deposits" of a bank are liabilities while its "Resources" are assets. Thus, in the one case we consider the ratio of "Cash" to liabilities; in the other, the relation of "Cash" to the assets. It is therefore absolutely necessary for the student of fundamental statistics to examine thoroughly the condition of the banks in relation to both points. It has happened during the past forty years that the ratio of "Cash" to "Resources" has varied almost constantly with the ratio of "Cash" to "Deposits," but before considering the two subjects together, one should first note if their progress is still along parallel lines.

Having already explained the relation that "Loans and Investments" bear to the money situation, let us study the effect that "Cash" has on the money situation. Of course it is usually true that the greater the amount of "Loans and Investments," the smaller the amount of "Cash," and vice versa. For this reason the following rule is already self-evident.

The banking situation grows more critical as the ratio of cash to deposits decreases, and the situation improves as the ratio of cash to deposits increases.

National banks are compelled by law to maintain an actual reserve equal to from fifteen to twenty-five per cent of their deposits (according to the city in which the bank is located) and any amount over this required reserve is called the "Surplus Reserve." As this surplus reserve declines, money rates increase, merchants and manufacturers are limited in borrowing, and speculators are compelled to dispose of stocks and bonds in order to pay their loans. On the contrary, as the surplus reserve increases, the banks become sounder and are ready to loan money to investors, manufacturers and merchants at lower rates of interest. All of this, however, is explained in detail in an article on the New York Bank Statement, a few pages hence.

Periods of depression and periods of prosperity in the past often could have been anticipated by a study of the ratio of "Cash" to "Deposits." Whenever there has been a great decline in the ratio of cash to deposits or aggregate resources, there has always followed a period of contraction of credits; and conversely as this ratio increased, lower interest rates have always followed. The following table shows the ratio of cash to the deposits of the National, State, Savings and other banks and trust companies from 1865 to and including June 30, 1912.

Year	No of Banks Reporting	Individual Deposits	Total Cash in Banks	Ratio of Cash to Individual Deposits
1865	1,960	$641,000,000	$199,400,000	31.11
1866	2,267	815,800,000	231,900,000	28.30
1867	2,279	876,600,000	205,600,000	23.45

Year	No. of Banks Reporting	Individual Deposits	Total Cash in Banks	Ratio of Cash to Individual Deposits
1868	2,293	$968,600,000	$200,700,000	20.72
1869	2,354	1,032,000,000	162,500,000	15.74
1870	2,457	1,051,300,000	187,700,000	17.85
1871	2,796	1,251,600,000	194,000,000	15.50
1872	3,066	1,353,800,000	177,600,000	13.12
1873	1,968	1,421,200,000	218,200,000	15.35
1874	1,983	1,526,500,000	252,200,000	16.52
1875	3,336	1,787,000,000	238,700,000	13.36
1876	3,448	1,778,600,000	226,400,000	12.73
1877	3,384	1,813,600,000	230,500,000	12.71
1878	3,229	1,717,400,000	214,600,000	12.50
1879	3,335	1,694,200,000	216,300,000	12.77
1880	3,355	1,951,600,000	285,500,000	14.63
1881	3,427	2,296,800,000	295,000,000	12.84
1882	3,572	2,460,100,000	287,100,000	11.65
1883	3,835	2,568,400,000	321,000,000	12.50
1884	4,111	2,566,400,000	321,200,000	12.51
1885	4,350	2,734,300,000	414,300,000	15.15
1886	4,378	2,812,000,000	375,500,000	13.00
1887	6,179	3,308,200,000	432,800,000	13.09
1888	6,647	3,422,700,000	446,100,000	13.03
1889	7,203	3,778,100,000	499,100,000	13.21
1890	7,999	4,062,500,000	478,300,000	11.77
1891	8,641	4,796,800,000	479,100,000	11.41
1892	9,338	4,664,900,000	568,400,000	12.58
1893	9,492	4,627,300,000	515,900,000	11.15
1894	9,509	4,651,200,000	688,900,000	14.81
1895	9,818	4,921,300,000	631,100,000	12.82
1896	9,469	4,945,100,000	531,800,000	10.84
1897	9,457	5,094,700,000	628,200,000	12.33
1898	9,485	5,688,200,000	687,800,000	12.09
1899	9,732	6,768,700,000	723,300,000	10.69
1900	10,382	7,238,900,000	749,900,000	10.36
1901	11,406	8,460,600,000	807,500,000	9.54
1902	12,424	9,104,700,000	848,100,000	9.31
1903	13,684	9,553,600,000	757,200,000	8.97

Year	No. of Banks Reporting	Individual Deposits	Total Cash in Banks	Ratio of Cash to Individual Deposits
1904	14,850	$10,000,500,000	$990,600,000	9.90
1905	16,410	11,350,700,000	994,100,000	8.76
1906	17,905	12,215,800,000	1,016,400,000	8.32
1907	19,746	13,099,600,000	1,113,700,000	8.51
1908	21,246	12,784,511,169	1,368,300,000	10.70
1909	22,491	14,035,500,000	1,452,000,000	10.34
1910	23,095	15,283,400,000	1,423,800,000	9.32
1911	24,392	15,906,300,000	1,554,200,000	9.77
1912	25,195	17,024,067,607	1,572,953,479	9.24

It is very interesting to note that the ratio of "Cash" to "Deposits" decreased in 1891 to practically the lowest figure known up to that time, and in 1893 to a still smaller figure, just before the panic of 1893. As in the case of all panics, this resulted in the calling of loans and the immediate strengthening by the banks of their cash resources, so that in 1894 this ratio had increased more than 32%. In the following year the ratio again dropped 13%. From 1897 it continued to fall until the next very low point reported, namely, for the year ending June 30, 1903. At that time, experts in these matters publicly prophesied a panic followed by a period of depression and, true enough, the following year it came, — the panic of 1903. "Resources" in

1904 were strengthened somewhat, but the improvement was not enough to restore the banks to a healthy and normal condition. In fact, the ratio was very low from 1904 to 1907, so that, instead of the customary number of years of prosperity before another depression, the country saw a change for the worse in 1907. If the depression of 1903 had lasted long enough to enable the banks sufficiently to increase their cash resources, improvement would probably have gone on until 1912 or 1913; but as the banks did not have time to recuperate, another depression within a few years was inevitable. This came in 1907–8, and should "Cash" again decrease too rapidly, another pause may be looked for.

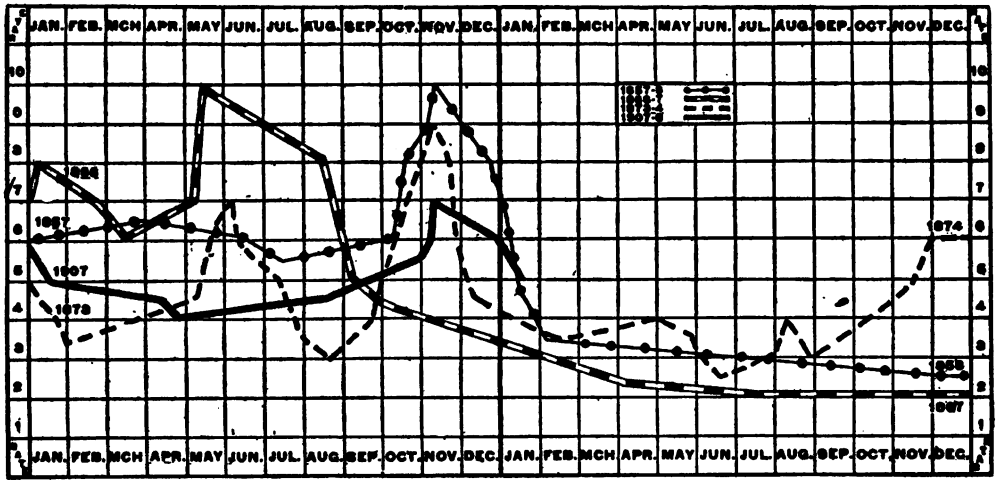
The figures in the table given above are for the entire country, and a study of them is very suggestive. As they in general are similar to those outlined in the paragraphs on "Loans," they need not be described further here. When studying the ratio of "Cash" to "Deposits," one must not only note this ratio, but must also keep in mind the *aggregate of cash* and the *aggregate of deposits*.

Very largely upon this relation does the "price of money" or the rate of interest depend. The accompanying chart shows this range of rates of interest during and after four great panics. Such a plot corresponds almost identically with one based on the relation of "Cash" to "Deposits," excepting that one plot is the reciprocal of the other.

The following conclusions relative to the ratio of "Cash" to "Deposits" are suggested:

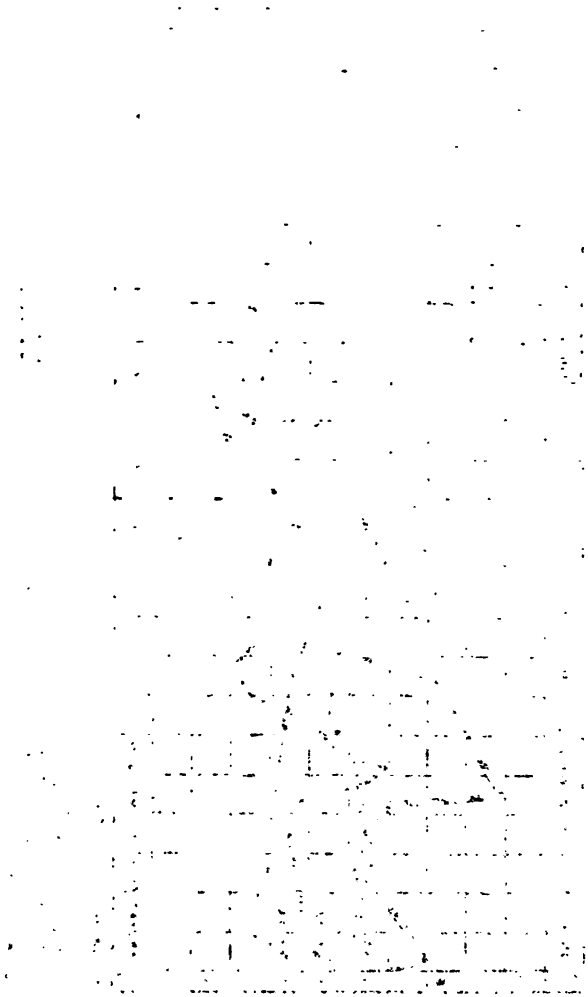
WORLD MONEY RATES

during the following panic years



From the Wall Street Journal

This chart shows the course of money in the years following four severe panics: 1857, 1866, 1873, 1907. Each square represents one per cent vertically, and one month horizontally. The figures at the side indicate the minimum discount rate of the Bank of England. The left twelve squares of the chart represent the months of the year; those at the right the year following the panic.



(These general principles also apply to the ratio of "Cash" to "Aggregate Resources.")

1. *During a Period of Business Depression.*

(a) After money has been cheap for some time, accompanied by large cash figures, a continued increase in the ratio of "Cash" to "Deposits" signifies that business remains at a standstill.

(b) A decrease — under the above conditions — may be a good sign, showing that business is reviving.

(c) No change signifies that conditions are stationary.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) After money rates have been very low for some time, a further increase in the ratio of "Cash" to "Deposits" often means that there has been another recession in business.

(b) A decrease under such conditions usually signifies renewed activity.

(c) No change signifies a period of hesitation.

3. *During a Period of Prosperity.*

(a) An increase in the ratio of "Cash" to "Deposits" tends to prolong the period of prosperity.

(b) A decrease tends to shorten the period of prosperity.

(c) No change signifies a period of hesitation.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase in the ratio of "Cash" tends to delay the depression.

(b) A decrease is very unsatisfactory.

(c) No change signifies nothing of importance.

DEPOSITS OF THE BANKS

The rule governing the ratio of "Cash" to "Deposits" holds good, except when deposits are increasing too rapidly, owing to increased prices of securities, real estate and commodities. Beside studying the ratio which we have described, the deposits should be watched independently for changes, as deposits should not increase too rapidly. The weekly statement of the New York banks will serve this purpose. A very simple illustration shows how large deposits may be reported at considerable risk, but without any intentional misstatements of facts.

A few years ago a miser died in a certain town, which may be called Graniteville. The executor of his estate found $5,000 in gold stored away in the house, and deposited it with the Graniteville Trust Company, thereby increasing the deposits of that company by $5,000. Shortly after, John Smith borrowed of the trust company $4,500 of the amount deposited in order to buy stone with which to build a block of buildings. The local granite company, having outside income sufficient to pay its operating expenses, deposited the entire $4,500 received from Smith with the Graniteville Trust Company; so the deposits of the trust company became $9,500 greater. Soon after, Mr. Jones came into the bank and borrowed $4,200 with which to buy stone to

build a block in another part of the town, and upon receipt from the granite company of Jones' $4,200 the granite company made another deposit with the trust company increasing the deposits to $13,700.

The following day a Mr. Brown, by means of a loan from the trust company, bought stone, and the granite company further increased its deposits to $17,500. This same method of procedure was continued until the $5,000 in gold which was originally deposited resulted in increasing the deposits of the trust company by $50,000 and the loans by $45,000. Moreover, this $5,000 enabled the granite company to suppose it had $45,000 in cash on deposit in the trust company, and provided for the building of several stone blocks in the city. In other words, the deposit of this $5,000 in gold resulted in creating an apparent wealth in Graniteville of about $100,000. This story shows not only the risks of great increases in "deposits," but also the importance of gold importations in times of stringency, owing to the advantage of having on hand as much currency as possible.

When the miser's estate was settled, this $5,000 was turned over to his only daughter, who had the same hoarding disposition as her father. She immediately withdrew in gold the $5,000 from the Graniteville Trust Company and placed the same in a safe deposit box with the following result. The Graniteville Trust Company, in order to show its proper "Reserve," was obliged to demand payment of all the loans made to Smith, Jones, Brown, and

the other men. In order to pay these loans, all of these men were obliged to sell the buildings which they had erected and, in order to protect the price of granite, the granite company was obliged to purchase these buildings, which necessitated the withdrawal of their deposits from the trust company. Thus the withdrawal of this $5,000 in gold resulted in a $50,000 decrease in the deposits of the trust company, caused the $45,000 of cash assets of the granite company to vanish, and caused half a dozen or more citizens to lose their property, and possibly enter bankruptcy.

The principle should be clearly kept in mind when studying the "Deposit" item of the New York Bank Statement. Large "Deposits" are not necessarily a healthy sign. Neither very large nor very small "Deposits" are normal. The best bank statement is the one where the figures for "Deposits" are normal and bear a proper relation to "Loans," thus showing a proper "Surplus Reserve."

The exact meaning of these various terms as used in the above-mentioned Bank Statement (which is issued every Saturday at twelve o'clock noon, showing the condition at the close of business on Friday) is as follows, according to a valuable pamphlet published by Sig. Rosenblatt & Co.

Loans and Discounts:

Comprising loans, discounts, stocks, bonds and mortgages owned by the bank.

Specie:

Comprising gold and silver coin, United States

and Clearing House certificates, and United States silver certificates.

Legal Tender Notes:

Comprising United States legal tender notes of all issues.

Circulation:

The amount outstanding.

Deposits:

Gross deposits and unpaid dividends less exchanges for the clearing house, amounts due from other banks for collection, notes of other banks and checks on non-clearing institutions in the city of New York.

The item of loans and discounts, it will be noticed, represents, aside from notes, drafts or any instrument upon which funds have been loaned out by the bank, also United States bonds held as security for circulation and for deposits of public money, and the stocks, bonds, mortgages, and syndicate investments of both state and national banks. Therefore, changes in circulation may very often appear also as a change in loans, since purchases by the banks of bonds always increase the loans; and sales of bonds decrease the loan account, if the proceeds are not loaned out or other securities purchased.

It must be kept clearly in mind that all items of the weekly statement are made up by *averages*. There are two ways to make up these averages, but neither one gives a clear picture of the condition of the bank. One way is to add the figures at the close

of each day's business and divide the total by the number of business days in the week. Another way is to multiply each of the first day's items by the number of business days in the week, and each subsequent day's items by one less, and then add them and divide the total by 21 for a six-day week and by 15 for a five-day week. As both of these ways are more or less inaccurate, the changes shown by the bank statement do not always agree with the changes indicated by the reported movement of money.

The *surplus* against all deposits is computed by subtracting one-quarter of the net deposits from the cash held. This has to be done, as the main reserve banks are required by law to keep a reserve of 25% against their deposits. This is true so far as it concerns the total surplus. The surplus against deposits, other than the United States deposits, is computed by deducting from a quarter of the total deposits 25% of the United States deposits and subtracting the remainder from the cash held.

"As an example take the New York Clearing House Statement for the week ending Saturday, February 15, 1908, 48 banks reporting:

Total capital of all institutions . .	$124,350,000
Net profits of all institutions . .	159,561,100
Loans average	1,135,248,200
Specie average	253,424,200
Legal tender average	60,503,300
*Deposits average	1,132,309,100
Circulation average	66,723,500

*United States deposits included, amounting to $59,495,300.

In order to find out the surplus reserve against all deposits, compute on the net deposits amounting to	$1,132,309,100
25%, equal to	283,077,275
The actual reserve, consisting of legal tenders and specie as above, amounts to	313,927,500
Less the reserve required	283,077,275
Leaving a surplus of	30,850,225
To find the surplus against deposits other than United States deposits, take the total deposits of	1,132,309,100
Deduct U. S. deposits of	59,495,300
Leaving net deposits of	1,072,813,800
25% reserve required	268,203,450
Reserve held	313,927,500
Surplus	45,724,050

"Percentage of reserve held by banks was 27.72% (25% required), and the surplus above that amounted to $45,724,050."

The above shows how the bank statement appeared formerly. The question immediately arises whether the statement issued by the banks comprising the clearing house, together with the non-members' statement, would give an actual picture of the banking power of New York City. The answer is *no*, inasmuch as only a few of the trust companies are included in the statement. However, it is now possible to acquire a comprehensive

knowledge of banking conditions in Greater New York because of the publication of the actual and the average condition of the Clearing House banks, and because of the compilation, under direction of the State Superintendent of Banks, of reports of the other institutions under his control, not reporting to the Clearing House. These statements are:

1st. Clearing House members *average* statement for the National Banks, State Banks and Trust Companies associated separately and together.

2nd. Clearing House members *actual* statement.

3rd. Average of other banks and trust companies not in the Clearing House.

4th. Aggregate average.

In order to make the compilation still clearer, the Superintendent issues a separate summary of weekly statements of all state banks and trust companies.

It must be borne in mind that the percentage of reserve of Clearing House banks represents actual cash in bank, while only *5% of cash is required of trust companies, outside of the association, the remainder being either certain bonds or deposits in other institutions.

*Reserve Required for Trust Companies and State Banks Location	Trust Cos. Total Reserve Required.	Trust Cos. Of which in Cash.	State Banks Total Reserve Required.	State Banks Of which in Cash
Manhattan Borough	15%	15%	25%	15%
Brooklyn Borough, without branches in Manhattan	15%	10%	20%	10%
Other Boroughs, without branches in Manhattan	15%	10%	15%	7½%
Brooklyn Borough, with branches in Manhattan	15%	15%	20%	20%
Other Boroughs, with branches in Manhattan	15%	15%	15%	15%
Elsewhere in State	10%	5%	15%	6%

— *The Commercial and Financial Chronicle.*

Since 1911 the New York Bank Statement has been more elaborate than before. "This is so, not only because the exhibits of the trust company members form part of the returns, but also because the Clearing-House managers undertake to show the actual condition of the institutions at the end of the week as well as the averages for the week. Up to the time of the panic of 1907 it was the custom to give merely the averages. As far as the separate banks are concerned, these averages are still the only thing reported. But after the panic the Clearing House began to make up the general totals so as to show the actual results at the end of the week as well as the week's averages. At the same time the State Superintendent of Banks began to make public, general totals for all the State Institutions and to report separately the results for the State banks and trust companies outside the Clearing House. By combining these latter results (which are on the basis of averages for the week and do not show the condition at the end of the week) with the figures of averages in the Clearing-House statement, one is enabled to get a set of totals covering substantially all of the banking institutions of Greater New York.

"It would simplify things very much if the Clearing-House could be induced to discard altogether the system of averages and confine itself to showing the actual condition at the end of the week, and if the State Banking Department could be prevailed upon to substitute the actual figures for the averages in the case of the institutions under

its care. We would then have a true statement of the banking situation for each Saturday morning. But under present conditions it is not possible to have such a statement, and the only thing to do is to use the figures really available. The statement as it now appears shows the returns of the banks by themselves, also the returns of the trust companies by themselves, and then gives totals embracing both banks and trust companies. The papers also print the figures given out by the State Banking Department and then furnish a further table in which the different items in the two sets of statements are brought together and an aggregate made up for the two combined. This latter then affords the basis for another little statement in which are given the combined results for all the banks and trust companies in Greater New York for the latest week and compare them with the corresponding totals arrived at in the same way for preceding weeks. The items of course are limited, but comprise the loans, the deposits and the money holdings of the combined institutions and would hence appear to furnish what our correspondents want, namely, an indication of "the drift of things." We reproduce this table here, from Aug. 3 to Dec. 28, 1912.

COMBINED RESULTS OF BANKS AND TRUST COMPANIES IN GREATER NEW YORK

Week Ended	Loans and Investments	Deposits	Specie	Legals	Total Money Holdings
Aug. 3	$2,653,996,400	$2,531,377,000	$426,240,000	$96,637,500	$522,877,500
Aug. 10	2,649,899,100	2,523,862,000	428,136,200	94,811,900	522,948,100
Aug. 17	2,651,628,200	2,532,105,200	430,507,200	94,054,600	524,561,800
Aug. 24	2,650,979,400	2,533,156,400	427,920,000	92,738,600	520,658,600
Aug. 31	2,651,253,500	2,523,586,700	417,008,100	92,651,800	509,659,900
Sept. 7	2,644,504,100	2,503,801,200	407,961,100	91,860,800	499,821,900
Sept. 14	2,618,939,000	2,467,559,400	400,137,800	91,421,300	491,559,100
Sept. 21	2,586,878,200	2,434,513,200	396,837,700	91,696,900	488,534,600
Sept. 28	2,572,002,400	2,420,349,500	393,528,700	91,815,100	485,343,800
Oct. 5	2,546,392,900	2,395,942,400	388,472,000	90,687,600	479,159,600
Oct. 11	2,535,672,100	2,378,856,400	386,925,500	89,606,900	476,532,400
Oct. 19	2,530,437,100	2,371,614,100	390,217,500	90,192,100	480,409,600
Oct. 26	2,534,880,000	2,372,940,000	385,208,100	90,701,400	475,909,500
Nov. 2	2,515,054,600	2,335,724,800	378,728,800	91,511,300	470,240,100
Nov. 9	2,496,735,700	2,308,801,000	375,777,200	87,858,700	463,635,900
Nov. 16	2,493,836,100	2,303,144,900	374,309,500	89,412,700	463,722,200
Nov. 23	2,480,706,300	2,290,470,800	372,417,800	90,306,000	462,723,800
Nov. 30	2,476,317,000	2,275,323,600	362,459,900	89,878,400	452,338,300
Dec. 7	2,442,755,000	2,234,183,100	360,720,800	89,886,600	450,607,400
Dec. 14	2,415,385,300	2,207,395,400	355,442,100	90,376,000	445,818,100
Dec. 21	2,405,324,800	2,203,094,300	359,060,900	88,711,300	447,772,200
Dec. 28	2,412,078,600	2,221,988,000	360,990,400	88,348,100	449,338,500

In spite of there still being some weak points in the compilation of the statement, as for instance that the averages are not figured in the same way by all institutions, and also that in the item "Loans and Discounts" there are included investments, such as stocks, bonds and mortgages, which, in fact, should not be included in the loan item, we may be very well satisfied with the statement as now issued. These combined reports, however, can never be as valuable as the Comptroller's Reports (mentioned earlier in this chapter) which should be most carefully studied by all.

The following conclusions relative to Bank Deposits* are suggested:

1. *During a Period of Business Depression.*
   (a) An increase is to be expected.
   (b) Decrease signifies that business may be improving.
   (c) No change signifies continued dullness.
2. *During a Period of Improvement Following a Period of Business Depression.*
   (a) An increase is to be expected.
   (b) A decrease may signify a recession.
   (c) No change signifies nothing of importance.
3. *During a Period of Prosperity.*
   (a) A large increase may signify that underlying conditions are becoming unsound.
   (b) A large decrease may call for caution.
   (c) No change signifies nothing of importance.

*When studying "Deposits," only those "Subject to Check" should be considered.

4. *During a Period of Decline Following a Period of Prosperity.*
   (a) An increase in deposits is not normal.
   (b) A decrease in deposits is normal.
   (c) No change calls for special watchfulness.

SURPLUS RESERVES OF THE BANKS

The figure for "Surplus Reserve" as given in the New York Bank Statement often indicates:

(a) The Price of Money.
(b) The Supply of Money.

The price is determined by the relation of the supply and the demand; that is, when more persons wish to borrow than to loan, interest rates advance; and when a larger number wish to loan than to borrow, the supply is greater than the demand and interest rates decline. For this reason money rates are usually high during the periods of business activity and low during periods of depression. The *price* of money, however, is not as important a factor as the *supply*. In other words, provided the merchant can obtain the money when needed and in sufficient quantities, an abnormal interest-rate is less harmful in its effects than the inability to get money at all.

A variation in the rates for borrowed money has a more direct effect upon the market for stocks and bonds than upon the market for merchandise. When the speculator can borrow money at three or four per cent. to purchase securities paying five or six per cent., the temptation is to borrow and make

the purchases, thus increasing the demand and consequently the market price for the securities. Under such circumstances, there is a profit on the "interest account," even though there is no increase in the value of the investments. On the other hand, this increased incentive to purchase does not exist when money commands six or seven per cent and securities are selling on a four or five per cent basis, for then the "interest account" shows a loss. Those who have securities upon which they are borrowing money are tempted to sell them in order to stop the loss in interest. Consequently, the supply of securities exceeds the demand and the price declines.

As previously stated, this question of "interest rates" is entirely secondary to the question of "supply." It is not interest rates that cause the merchant to fail or the speculator to sacrifice his stocks, but rather his inability to renew his loans on any terms whatever. Many great periods of declining prices have been solely due to this cause, namely, a lack of supply of money, and the speculator is not the only one to feel the effect of such times. The New York Bank Statement, used in connection with the Comptroller's Reports and Foreign Money Rates, forms the best barometer of the *supply* of money.

As to the current *price* of money, this may be definitely determined each day by referring to the money articles on the financial page of most daily papers. The figures under what is known as "call rates" or "call money" denote the rates which the stock exchange houses and bond dealers are re-

quired to pay for money on loans which may be called any day and on which the rates may change from day to day. Sometimes this figure is more and sometimes less than the figure for "time-rates." "Time-rates" apply to loans maturing at a fixed date, such as six months or a year. When the bankers having money to loan think that all rates are to strengthen in the near future, then the call-rate is less than the time-rate, and when the bankers having money to loan think that all rates are to decrease in the immediate future, then call-rates are higher than the time-rates. Some of the shrewdest borrowers take time money when the bankers are encouraging the people to take call money, and vice versa, on the principle that the bankers know more about the situation than their customers. However, this question of money rates is too complicated to present here in detail, especially since as has been stated, the price of money can be easily ascertained at any time by referring to the daily papers.

The *supply* of money is the most vital question as, unlike the price, it is not so subject to manipulation. This supply, as above stated, is best indicated by the weekly New York Bank Statement. This is simply a statement of the New York banks and does not include statements from any of the other twenty thousand banks in the United States, nor the great banking institutions of foreign countries. The need of a complete weekly bank statement is already felt. The New York Bank statement is already being made to include certain out-

side banks, and without doubt the time is coming when all of the large banks in this country will report their condition by telegraph every Saturday morning, so as to give a combined statement. This will probably be followed later by the banks of every country reporting their conditions by cable to London. This will give a bank statement which will show the exact financial situation and enable one to note the amount of available money as quickly and as certainly as he may now note the rate of interest. Until such a time comes, however, the New York bank statement, issued every Saturday noon, is the best barometer we have for judging present conditions.

In reading the bank statement one of the main points to note is the amount of "Surplus Reserve," or "Excess Reserve" as it appears in the official statement. Two items are always given here: "Reserve Required" and "Reserve Held." It should always be observed whether the "Reserve Held" is greater or less than the "Reserve Required." If the "Reserve Held" is greater, then there is a "Surplus Reserve," but if not, then there is a "Deficit," which is a danger signal to all interested in financial or mercantile affairs. Since a "Deficit" occurs, as a rule, only just preceding times of panic, possibly for a few weeks out of two or three years, the merchant should notice each week, as he reads the bank statement, whether or not the "Surplus Reserve" is decreasing or increasing.

So long as the "Surplus Reserve" decreases, a corresponding increase in money rates may be ex-

pected; but if the "Surplus Reserve" increases each week, a decrease in money-rates may follow. Since the demand for stocks often increases as the interest rate decreases, money and the stock market often strengthen with the publication of what is known as a "good bank statement," namely, a bank statement which shows an increase in the "Surplus Reserve." On the other hand, as an increase in money rates often forces a sale of stocks, due to the calling of the loans, a "poor bank statement" is often followed by a drop in the market prices. When the bank statement is published on Saturday, the change in interest rates may not come until the following Monday, or possibly later, but the speculator anticipates this by buying or selling on Saturday. The first sellers after a poor bank statement are supposed to obtain the best prices, and the first buyers after a very good bank statement are supposed to obtain their securities at the lowest prices.

The word "surplus" implies a difference between two items; thus an increase in surplus may be due either to a decrease in one of the items, or to an increase in the other. The best bank statement is the one where the increase in "Surplus Reserve" is due to a reduction in loans with increased deposits.

All merchants should keep a monthly record of the "Surplus Reserve" as per the first day of each month.

The following conclusions are suggested relative to the "Surplus Reserve."

1. *During a Period of Business Depression.*

(a) An increase signifies lower money rates but continued dullness.

(b) A decrease signifies higher money rates but improved conditions.

(c) No change signifies continued dullness.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase signifies that the recovery in business is not very marked, and that continued low money rates may be expected.

(b) A decrease signifies continued improvement and is always the forerunner of higher money rates.

(c) No change signifies uncertainty.

3. *During a Period of Prosperity.*

(a) A great increase signifies that prosperous conditions may be expected to continue, with no change in money rates.

(b) A great decrease is often a danger signal and is always the forerunner of higher money rates.

(c) No change may signify either condition.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase tends to prolong present conditions and to lower money rates.

(b) A decrease is a sign that conditions are growing worse and that higher money rate may be expected.

(c) No change signifies uncertainty.

In this connection some facts from an article

by George H. Johnson appearing in *Van Norden's Magazine* relative to "Clearing House Certificates and their Effect on the Stock Market" are of interest.

An issue of Clearing House Certificates was authorized by the Associated Banks of New York City for the ninth time in their history, and the fifth time since the Civil War, Saturday morning, Oct. 26, 1907. These certificates are a kind of emergency currency; they have never been authorized by law, and are used only between banks; they stand midway between promissory notes secured by collateral and asset currency.

The first time such certificates were authorized was in November, 1860. Banks in different states had then just suspended payments. November 12th there was a panic on the Stock Exchange, with declines of from 8 to 12 points in the prices of stocks. With a view to stopping the panic the New York banks decided to be more liberal in making loans. To increase their resources they appointed, November 21st, a committee of the Clearing House to receive from banks in their membership, and hold for them, New York and United States government bonds, and to issue therefor certificates for 75 per cent. of their value which would be accepted at the Clearing House in payment of balances. To insure the redemption of this paper as soon as the emergency passed, the holders were charged 7 per cent. interest. The plan was successful in stopping the panic. A period of liquidation ensued. From

January 5 to August 17, 1861, the specie deposits doubled and the bank loans were reduced from $129,000,000 to $108,700,000.

Within a few months thereafter the Associated Banks of New York, at three different times, issued Clearing House certificates to enable them to subscribe for new issues of United States bonds which could be paid for only in specie. Although these certificates were issued for patriotic reasons, all those subsequently issued in times of panic, have been of substantially the same form as those first issued in 1860; but since 1873 the rate of interest has been 6 per cent.

The statistics of these issues by the Associated Banks of New York City are given in the following table:

CLEARING HOUSE CERTIFICATES ISSUED IN NEW YORK

Year	Date of First Issue	Date of Final Cancellation	Total	Maximum Outstanding at any Time
1860	Nov. 23	Mar. 9, 1861	$ 7,375,000	$ 6,860,000
1861	Sept. 16	Apr. 28, 1862	22,585,000	21,960,000
1863	Sept. 15	Feb. 1, 1864	11,471,000	9,608,000
1864	Feb. 29	June 13, 1864	17,728,000	16,418,000
1873	Sept. 22	Jan. 14, 1874	26,505,000	22,410,000
1884	May 15	.....	24,915,000	21,885,000
1890	Nov. 12	Feb. 7, 1891	16,645,000	15,205,000
1893	June 21	Nov. 1, 1893	41,490,000	38,280,000
1907	Oct. 26	Mar. 28, 1908	101,060,000	88,420,000

In 1873 the Philadelphia Clearing House issued certificates to the amount of $6,785,000 and in 1890 to the amount of $8,870,000. In 1893 Philadelphia issued Clearing House certificates June 16, and had outstanding $10,965,000 on August 15. Boston

and Baltimore issued such certificates June 27, and a month later had outstanding a maximum of $11,445,000 and $1,475,000 respectively. The Pittsburg issues amounted to only $987,000. These are the only Clearing House certificates reported by the Comptroller of the Currency that year; but then, as during 1907, some form of certificate of this character was issued in nearly every large city in the country.

The most prominent cause of nearly every crisis, both abroad and in this country, similar to the one through which we passed in 1907, has been the rapid absorption of capital in new enterprises — particularly those not at once productive. The great panic of 1873 followed the extensive building of the Northern Pacific and other railroads through an unpopulated country. The cost of railroad construction in this country during the five years preceding 1873 was estimated at $1,700,000,000. Then the granger laws, which had recently been enacted, were regarded by many as effecting a virtual confiscation of railroad property. Under these conditions, the underwriters of the bonds issued to pay for new construction, found at last that the public would not buy them. The result was the failure, September 18th, of the banking house of Jay Cooke & Company, followed within two days by the failure of several other large banking and brokerage houses. Prices of stocks fell 20 or 30 points, and the Stock Exchange, for the first time in its existence, suspended business because of the panicky conditions and did not open again

for a period of ten days. In other respects the conditions in September, 1873, were similar to those in October, 1907. The country banks then, as in 1907, drew on their deposits in New York, and when the New York banks could not satisfy this demand for currency the country banks in turn could not satisfy their correspondents and depositors; and so there was a partial or entire suspension of payments in legal currency which continued for forty days. Legal tender notes commanded a premium over certified checks ranging from one-fourth of one per cent. to three per cent., until the New York banks had extensively reduced their loans and resumed currency payments, November 1st. A long liquidation followed which lasted four or five years. From the lowest panic prices of 1873 it took twenty-three months for the average price of active stocks to gain seven points and that was the highest level reached within five years after the panic.

"From 1878 to 1881 there was a rising market and extensive railroad construction. Then began the great decline which ended in the panic of 1884. Again investors were asking whether the value of their securities had not been permanently affected by the hostile legislation of Congress and the states, and this anxiety was accompanied with great distrust of corporate management. The market was congested with railroad securities. A large number of mercantile failures in 1883 and the first quarter of 1884, and several railroad receiverships, caused a general feeling of apprehension which culminated

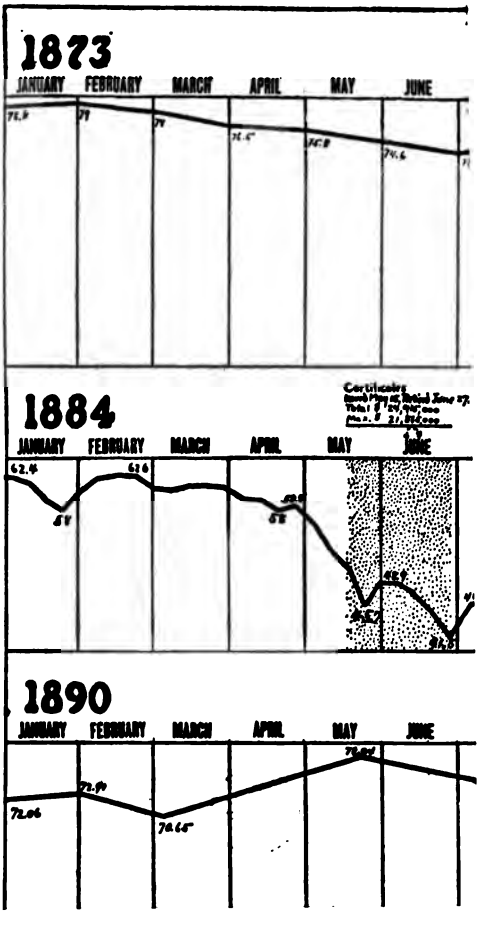
May 6 in the failure of the Marine Bank and the firm of Grant & Ward. Many other failures occurred through May and June. On May 14 it was practically impossible for the banks to collect on their call loans, as the borrowers could obtain money only by the sale of their securities at ruinous prices. In the afternoon of that day the New York Clearing House again authorized the issue of certificates to enable them to make loans. This measure was not adopted by any other city at this crisis, although monetary disturbance and many failures occurred all over the country. This crisis seems to have been even more unexpected by the country than that of 1873, and it proved to be not of long duration. Prices of stocks declined still lower in June, but the banks in New York were showing rapid improvement, and by the end of June nearly all the certificates except those held by the Metropolitan Bank had been retired, and the surplus reserves rose to $13,121,625.

"The panic in the fall of 1890 was preceded by the Baring failure in London which was caused by immense undertakings in South America. For several weeks in November call money in New York often commanded the equivalent of 186 per cent. per annum. Clearing House certificates were issued November 12th but decided improvement in the stock market did not begin until the 20th; within the next nine days great strength developed, leading stocks advancing from 5 to 8 points. December 4th the Bank of England reduced its discount rate from six to five per cent., thus virtually

proclaiming that the panic was believed to be past. But although Clearing House certificates had been issued in Philadelphia and Boston, as well as New York, the banks again had a deficit in their reserves, call rates went to 186 per cent., and many new low records were made on the Stock Exchange.

"The panic of 1893 was chiefly due to a fear of change in the standard of money and this caused a general hoarding of gold. It was preceded by a banking panic in Australia. Currency became so scarce that Clearing House certificates were issued in New York City on June 21, and in other cities shortly after to the aggregate amount of tens of millions of dollars; but conditions did not improve until nine weeks later. Meantime banks were failing all over the country, currency was at a premium ranging from one to seven per cent., and cash payments were comparatively rare. After the House of Representatives voted August 28 for the repeal of the silver purchase law the whole situation changed. The currency famine and high interest rates had stimulated the importation of gold and the increase in national bank circulation. The reaction was inevitable. In December the call rate for money declined to three-fourths of one per cent."

The course of the stock market in four of these panic years, as indicated by the average price of active railroad stocks, and the duration and amount of Clearing House certificates issued is shown on the accompanying diagrams. There is nothing in these plots to indicate that prices were inflated by


1873
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
1884
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
1890
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE

UNIV.
OF
ILL.

the issuance of Clearing House certificates, but rather that they served their purpose, which is to supply in part the deficiency of currency caused by hoarding, and so check a ruinous decline in prices. Desperate emergencies call for extraordinary remedies, and for nearly half a century Clearing House certificates have never failed to relieve the worst panics and enable business to continue, where without them it would have been impossible.

If an asset currency could be provided by Congress which could be used as required by banks in all parts of the country, and which would be as quick of issue, as safe and as efficacious as Clearing House certificates in an emergency and with similar limitations as to volume and duration, it would be one of the most beneficent laws ever enacted. But booms and panics are the result of fundamental laws, some of which are financial and economical and others social and psychical. The provision of an elastic currency which would automatically adjust itself, through taxation, to the needs of business would do much to relieve panicky conditions; but some of these conditions which come in cycles, and others which come occasionally from dishonesty and mismanagement in high places can never be wholly prevented by legislation. Moreover, the diagrams clearly show that the forced liquidation which naturally continues for several weeks after any panic in the stock market generally carries prices to a still lower level notwithstanding aid which has been given by Clearing House certificates.

IMPORTS OF MERCHANDISE INTO THE UNITED STATES

Connected with fundamental statistics and very closely related to one another are the three following subjects:

Imports of Merchandise into the United States.

Exports of Merchandise from the United States.

Balance of trade between foreign countries and the United States.

Each of the three subjects is absolutely dependent upon the others and were it not for the separate tables connected with each subject, it would doubtless be simpler to treat all three in one comprehensive section entitled "Imports, Exports, Trade Balances and Volume." Owing, however, to the fact that it is absolutely necessary for the banker or merchant to divide the figures into three separate tables and not allow them to be combined in any way, each is here treated independently.

No detailed definition need be given of the imports of the United States except that the word import refers to the valuation of the raw material, manufactured goods and all other products purchased from abroad and entering any port or crossing any boundary of the United States. It may be mentioned also that although the figures published by the Government are correct for *comparative* purposes, they are, as a matter of fact, low. For this there are two reasons: first, there is a large quantity of goods brought into this country of which no record is ever made; and secondly, the "values" are placed by the importers at the lowest

possible figures in order that the charge for duty will be as little as possible.

(Figures prior to 1867 are given for the fiscal year ending June 30. After that year they are for the calendar year.

TABLE OF UNITED STATES IMPORTS

Year	Imports	Per Capita	Year	Imports	Per Capita
1860	$353,616,119	$11.25	1887	708,818,478	12.09
1861	289,310,542	9.02	1888	725,411,371	12.11
1862	189,356,677	5.79	1889	770,521,965	12.58
1863	243,335,815	7.29	1890	823,397,726	13.15
1864	316,447,283	9.30	1891	828,320,934	12.96
1865	238,745,580	6.87	1892	840,930,955	12.91
1866	434,812,066	12.26	1893	776,248,924	11.68
1867	371,476,175	10.23	1894	676,312,941	9.97
1868	368,006,572	9.94	1895	801,669,347	11.60
1869	438,455,894	11.60	1896	681,579,556	9.66
1870	461,132,458	11.97	1897	742,595,229	10.32
1871	573,111,099	14.47	1898	634,964,448	8.66
1872	655,964,699	16.15	1899	798,967,410	10.68
1873	595,248,048	14.27	1900	829,149,714	10.86
1874	562,115,907	13.13	1901	880,419,910	11.34
1875	503,153,936	11.43	1902	969,316,870	12.30
1876	427,347,165	9.47	1903	995,494,327	12.42
1877	480,246,300	10.37	1904	1,035,909,199	12.71
1878	431,812,483	9.07	1905	1,179,144,550	14.24
1879	513,602,796	10.52	1906	1,320,501,572	15.69
1880	696,807,176	13.88	1907	1,434,421,425	16.55
1881	670,209,448	13.06	1908	1,116,449,681	12 85
1882	752,843,507	14.36	1909	1,475,520,205	16 66
1883	687,066,216	12.81	1910	1,562,807,622	16 98
1884	629,261,860	11.48	1911	1,531,227,281	16.16
1885	585,868,673	10.49	1912	1,817,662,340	16.86
1886	$663,429,189	$11.57			

In studying the above tables it is convenient to refer to only the "per capita" column which shows very clearly the great value of these figures in forecasting a panic. At the close of the Civil War the people were importing on a basis of about $10 per capita and this steadily increased to over $16 in 1872. This increase was far above what it should have been, and was therefore naturally followed by the panic, which came the following year, namely, 1873. As is the case with all panic years, the imports immediately dropped off from $16 to about $14 and steadily decreased for about five years.

Beginning with 1879 the imports again increased and property likewise increased until 1882, when they again reached $14.36 per capita. Although this figure was not equal to the previous high figure for 1872, yet the rise was more rapid and it is not surprising that in the latter part of the following year there occurred another panic, namely, the panic of 1883–4. In 1885, or directly after this panic, imports again dropped to a minimum of $10.49, but gradually increased along the normal line until they reached over $13.00 per capita, at which point they remained constant during 1890, 1891 and 1892. As could readily have been predicted, these high figures were followed by another panic in 1893. During the next year, as is invariably the case, the imports again declined to $9.97. Since that time they have increased at a more or less irregular rate, up to 1907, when they again reached $16, at which figure they stood preceding the great panic of 1873. Then followed a

sharp reduction to $12.87, coincident with the panic of 1907–08 and its curtailing of imported luxuries. With the year 1909 imports have again increased to the above figures, therefore showing that the same law has been observed in connection with all panics excepting that of 1903, which, as explained under "New Securities," was chiefly due to one specific cause as stated by Mr. Morgan, namely, "the congestion of undigested securities." Where the figures on 80% of our subjects clearly forecasted all panics excepting said panic of 1903, in only a few tables was the approach of this panic indicated. On the other hand, in these few tables, especially the table for "New Securities Listed" and "New Corporations," the increase was so tremendous, several hundred per cent., that they of themselves were a sufficient danger signal, even though the figures on the other subjects appeared normal.

Thus in studying the figures on imports, we see that too great an increase in imports is a dangerous sign. This is due to two reasons: first, it necessitates the exportation of too much gold; and secondly, it signifies too great an extravagance on the part of the American people. As continued exports of gold are usually followed by advanced money rates, so too great an expenditure of money for luxuries and unproductive material, especially when imported, is followed first, by higher commodity prices, and then by a period of economy.

Not only are large figures for imports suggestive of a panic, but small figures, especially when they are increasing at a slow and conservative rate, are sug-

gestive of better times. This latter phase is especially well illustrated in an article which appeared some time ago in the New York *Evening Post.* It began by referring to a Wall Street man who rather facetiously remarked that good times were surely coming for he noticed that people were "wearing their old clothes." This remark, made carelessly, was nevertheless a statement of the tremendously important factor which personal thrift becomes during a period of depression.

In times of abounding prosperity it is easy for people to assume a contemptuous attitude toward petty economies. The talk is of making money, not of saving it. But a panic brings out the economic truth about the relation of savings to new business operations. "It must always be remembered," writes Lord Welby, commenting on an American panic in the *Contemporary Review,* "that the capital required to extend business and to open new fields of trade can only be supplied by the savings of the world.....But there is a limit to these accumulations, large as they are. If the passions of the world, the extravagance of the world, and above all the growing needs of the world trench too closely on the accumulations of the world, financial stringency will inevitably be the result." And it is a fact that even the most trivial form of saving become a large financial operation when generally practised.

How much can the American nation save should each man wear his clothes two years instead of one? The census report of manufacturers shows that the

factory product of men's clothing during a good year is valued at about $375,000,000. One-third of this, or considerably less than one-third on the basis of retail prices, would more than equal the entire balance of trade in this country's favor in a normally favorable month. There are over $40,000,000 worth of felt hats sold during a good year. By wearing their felt hats 50% longer than they have been accustomed to doing, plain Americans can effect a saving in a year greater than the great gold imports necessary to adjust conditions during a critical period.

Yet it is not always with clothes that people adopt a policy of retrenchment. If, for example, they cut down by only one-third the amount they spend on fresh beef, leaving all other items on the butcher's bill unaltered, the sum would be greater than twice the amount paid over the counters of the bank, which in October, 1907, endured the longest "run" in the history of banking institutions. Contract by the same proportion the consumption of all kinds of meat, — and many authorities think this would be well worth while from a hygienic point of view alone, — and a sum equal to the entire Government surplus at the time of the panic on Nov. 1, 1907, would be saved in less than ten months.

As to the commodities which are classed as real luxuries, the facts are equally striking. Enough cigars were "withdrawn for consumption" in 1907 to provide about eight and one-half cigars a week for every smoker, on the assumption that one-fifth of the total population, including babes in

arms, may fairly be put down in that class. Even for mere purposes of illustration, no one would be cruel enough to suggest treating the cigars as the colonists once treated the tea. But in a great emergency the average smoker might consider cutting down his allowance to one cigar a day. That trifling act would make a difference in the country's cigar bill of more than three and one-half millions a year.

Imports of luxuries into the United States during the fiscal year ended June 30, 1909, were valued at $210,872,120, as compared with $173,-217,690 in 1908 and $227,661,584 in 1907. This class of imports represented 16% of total imports in 1909, 14% of the total in 1908 and 15% in 1907. The increase of $37,654,430 from 1908 was one indication of the return of prosperous business conditions. The 1909 value, however, is $16,789,464 below the figures for 1907.

Outside of imports of silk, both manufactured and unmanufactured, having a value of $110,622,-169, imports of wines and spirits played no small part in the total imports of this country. Champagne imports, amounting to 436,628 dozen quarts, with a value of $6,863,785, were the largest during the same fiscal year (1909) in the history of the country and showed a very perceptible increase over 1907. The increase over 1908 totalled 68,959 dozen quarts, or 18%.

Uncut diamond imports were valued at $19,-313,585; and, while the value was $10,001,490 or over 100% greater than during 1908, it was still

$4,651,853 below the total value for 1907. Total precious stone imports, having a value of $29,373,-070 the past fiscal year, were over 70% greater than during 1908, but considerably below the total for 1907.

The above suggestions are sufficient to illustrate the reason for tabulating not only annual but also monthly figures on imports, namely, as a barometer of waste or of economy. It is, however, unnecessary that the monthly figures should be tabulated on a per capita basis, as the change in population is so slight.

Many merchants when studying foreign trade, instead of considering exports and imports separately, add them together and call their sum the *volume* of foreign trade. This figure is valuable as a barometer of general business activity. It should not be confused with the *balance* of trade which is the difference between exports and imports and is watched by bankers for its effect upon the money rates and gold supply.

The following conclusions are suggested relative to "Imports."*

1. *During a Period of Business Depression.*

(a) A normal increase signifies that conditions are improving, — provided said increase does not adversely affect the balance of trade.

(b) A decrease signifies no improvement.

(c) No change signifies nothing of importance provided the exports are likewise constant.

*These figures are valuable both as a barometer of the American demand for luxuries and for forecasting money conditions.

2. *During a Period of Improvement Following a Business Depression.*

(a) An increase, if not too great, signifies continued improvement.

(b) A decrease signifies no immediate improvement.

(c) No change signifies nothing of importance, provided the exports are likewise constant.

3. *During a Period of Prosperity.*

(a) An increase, especially if abnormally large, is a sign that no further improvement may be expected.

(b) A decrease tends to lengthen the period of prosperity, and is therefore a sign of continued improvement.

(c) No change signifies nothing definite.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase calls for caution.

(b) A decrease signifies no improvement.

(c) No change calls for caution.

EXPORTS OF MERCHANDISE FROM THE UNITED STATES

By "exports" is meant the goods shipped from the United States to any foreign port or country. This includes all raw materials, manufactured articles, and in fact anything for which a resident of the United States receives money.

The monetary condition of the country depends on three things:

1st. The amount of money in the country.

2nd. The demand for money.

3rd. The velocity of circulation.

The first item, namely, the amount of money in the country, is very dependent upon the exports of the country. Technically, this is dependent upon the balance of trade, a term explained in the next section of this chapter, but practically it is dependent upon the exports.

Formerly the amount of exports was dependent almost entirely upon the amount of raw material produced; that is, wheat, corn, cotton, live stock, products, etc. The condition of the main crops of wheat, corn, and cotton, as well as that of the smaller crops, such as hay, apples, potatoes, etc., determined the exports. With small crops the exports were very small, while with large crops the exports were large.

This condition, however, has changed during the past twenty years, in which period there has been a very great increase in exports. The total exports of the United States have increased from $800,000,000 to more than $2,000,000,000 and this increase has been much larger in manufactures than in other products. In 1890 the United States was exporting about $700,000,000 in food products and raw materials, which amount increased only to about $1,141,000,000 for the fiscal year of 1912, — an increase of less than 65 per cent. On the other hand, the exports of manufactured products increased from about $180,000,000 in 1890 to more than $1,000,000,000 in 1912, — an increase of more than 470 per cent.

Such a change in the proportions between the agricultural and manufactured exports is important. If exports are to depend upon manufactured articles rather than on raw materials, bread-stuffs, etc., the decline in exports which heretofore has occurred during years of crop failures will tend to be eliminated. Andrew Carnegie has said that the time is coming when the greater part of the raw materials, now forming the bulk of the export figures of this country, will be used here, and their place in export trade will be taken by *manufactured* articles. If so, the American manufacturers must reach the markets of the world and compete therein with all the other industrial and commercial nations.

If this is so, and the figures for the past twenty-odd years seem to prove it, our exports probably will not only continue to increase, but the fluctuations will, as above suggested, be much less marked. This is another reason why we should carefully study the figures on the "balance of trade," rather than the figures on the "exports" or "imports" exclusively.

There is one point in connection with exports, however, that the merchant and investor should especially remember, namely, that in the ordinary course of events, exports continue to increase for some time after a period of depression begins, although the *proportion* of exports to imports *decreases*. This is due to the fact that the momentum of the energy which increased production and exports during the period of prosperity itself, does not immediately lose its force. Moreover, the increase

in exports usually continues until increased activity at home increases demand and prices, after which exports begin to diminish. Therefore, during a period of prosperity, a decrease in exports is a dangerous sign, as it tends to adversely affect the balance of trade. This is also true at the beginning of a period of depression; but after a period of depression has been existing for some time, then a decrease in exports is often a favorable sign, as it shows that home consumption is increasing. *These facts suggest the necessity of systematically tabulating the monthly figures on exports. Neither these figures, however, nor the figures on imports need to be plotted.*

Many merchants when studying foreign trade, instead of considering exports and imports separately, add them together and call their sum the *volume* of trade. This figure is valuable as a barometer of general business activity. It should not be confused with the balance of trade, which is the difference between exports and imports, and is watched by bankers for its effect upon the money rates and gold supply.

The following conclusions are suggested relative to "Exports" and also relative to "Volume of Foreign Trade:"*

1. *During a Period of Business Depression.*
   (a) An increase signifies an improvement.
   (b) A decrease signifies no improvement.
   (c) No change calls for caution.

*These figures are valuable both as a barometer of foreign trade conditions and for forecasting money rates.

2. *During a Period of Improvement Following a Business Depression.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no improvement.

(c) No change signifies nothing definite.

3. *During a Period of Prosperity.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no further improvement or that a decline may be expected.

(c) No change calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies an improvement.

(b) A decrease signifies no improvement.

(c) No change calls for caution.

BALANCE AND VOLUME OF TRADE

One of the most important of the subjects that investors and merchants study when analyzing present conditions and forecasting future conditions is the *balance of trade.* When we have sold to foreign merchants raw materials or merchandise greater in value than that which they have sold to us, the balance of trade is said to be "in favor of" the United States as against foreign countries. This naturally results in the shipment to America of gold, to adjust the balance, or the selling in the United States of "exchange" at a discount, if the condition is but temporary. The balance of trade

does not always determine the debtor country, as there are other factors to be considered, but as a rule this is the case.

The "other factors" above referred to, are such factors as the sale of American securities abroad or the payment of interest by the United States and corporations therein to foreign security holders. Although from the bond dealer's point of view it is very advantageous to have a large and wide foreign market for American securities, thus leaving so much more "home" money free for investments, yet it must always be remembered that each year it may be necessary to ship gold from the United States to pay the interest on these securities and that eventually gold must be shipped to pay the securities themselves. Moreover, the amount of gold exported during the year that these securities are paid or when at any time before they are due the foreign dealers decide to sell them, will often nullify the good of a certain portion of the trade balance in our favor for that year.

If trade balances were dependent wholly on the exports and imports of raw material, merchandise, etc., it would be unnecessary for merchants and investors independently to tabulate monthly figures on gold movements in addition to tabulating monthly figures on exports and imports. Owing, however, to these additional factors, caused by the sale of securities, payment of interest, expenditures of tourists travelling abroad, etc., it is necessary to tabulate figures also on gold movements and these other factors.

Certain merchants when tabulating figures on

the balance of trade, which is the difference between the exports and imports, also tabulate figures showing the sum of the exports and imports or what is known as the "volume." This is wholly unnecessary when the imports and exports have been tabulated separately, but rather is of use simply as a short-cut to avoid the necessity of tabulating both imports and exports separately. *Figures, then, on imports, exports and the balance of trade, when tabulated each month serve as a wonderful barometer for discerning present conditions and for forecasting future conditions.*

Although the foreign trade statistics of other countries, when properly compiled for comparative purposes, are of interest to those studying the conditions of the United States, such figures are not conclusive in comparing the trade of two different countries. As there is no uniformity in the classification in the exports and imports of two different countries and as the methods of valuation are also entirely different, it is very dangerous to make comparisons between the various countries.*

The following conclusions are suggested relative to the "*Balance of Trade in favor of the United States.*"

1. *During a Period of Business Depression.*
   (a) An increase signifies an improvement.
   (b) A decrease signifies no improvement.
   (c) No change signifies that money rates may depend wholly on domestic conditions.

*This matter is discussed very clearly in an article on the "Comparatability of Trade Statistics of Various Countries" by Sir A. E. Bateman, C. M. G., published by the American Statistical Association, New Series "1893" Vol. 3, page 533.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no improvement.

(c) No change signifies that money rates will depend wholly on domestic conditions.

3. *During a Period of Prosperity.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no improvement, or perhaps the end of the period of prosperity.

(c) No change signifies nothing of importance.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies that lower money rates may be expected, and a possible improvement.

(b) A decrease signifies no improvement.

(c) No change signifies nothing of importance.

GOLD MOVEMENTS

The following by a well known writer is a good explanation of this subject:

"The natural movement of gold divides itself readily into four classes. There is in the first place the primary movement from the mines to the distribution centers, London for the European markets and New York and Seattle for the United States. After that comes what might be called the first distributive movement, where the gold arriving,

for instance, at London, is sold to the highest bidder, often representing far off countries. A readjustment movement follows where gold, for instance, purchased by Paris in London is sent on to Switzerland, Italy, or Belgium or any other points. Lastly there is a constant flow of gold from one part of the world to another, the movement of which is due to the ancient causes of supply and demand, of trade and other balances to be paid, and of bank reserves to be built up or released.

"Whatever schemes of international gold certificates or of an international clearing house may be proposed by financial economists for the purpose of reducing the gold movement, there can never be any question as to the necessity of the primary movement from the mines to the distributive centers. Roughly speaking, the world's gold production originates in three great sections, South Africa, Australia and the United States. From the former comes almost half of the gold mined in the world each year, and therefore bankers and merchants tabulate the monthly production of the Rand Mines.

"The great distance of these localities from any important financial market and the fact that most of the stock of the South African and Australian gold mines is held in England, makes London the point to which the product of those mines is naturally sent, so that nearly one-half of the world's annual production of gold comes into the London market for distribution.

"Arrivals of gold consigned to the London agents of the South African and Australian mines are fully

advertised, and what amounts to a regular auction is held every time a consignment arrives. The Bank of England is always ready (must be, by law) to purchase all gold of standard fineness offered to it, at 77 shillings 9 pence per troy ounce. But very rarely does the bank, or any one else, secure bullion at this price. Usually the bidding of the representatives of the various banks puts the price well above that figure.

"London is the one free gold bullion market of the world. As the metal arrives from the mines it is sold to the highest bidder without fear or favor. But this process must not be confused with the gold market maintained by the Bank of England. Usually the Bank will sell gold bars at a price, but sometimes it will not, and then the cry goes up that London is no longer a free gold market. As a matter of fact, the Bank of England is far from being a free gold market, but the open market is free and as long as there is any gold coming in, the highest bidder gets it.

"In the United States on account of our entirely different currency law, there is no bullion market at all, free or otherwise, and the primary movement is direct from the mines to the assay offices, where a fixed and unvarying price is paid for it. In other words, all the gold produced in this country immediately passes into its circulation. There is no long trip to an open market, and then an apportionment, to all parts of the world. The owner of the gold takes it to the nearest government assay office, where it is assayed and bought from him at

so much per ounce. Afterwards if any one needs gold bullion, for export or other purposes, he can obtain it at the treasury at a fixed price, as long as the supply holds out.

"The very fact that there is a primary movement of gold from the Australian and South African mines to London makes necessary the distributive move to the various markets, whose representatives at the British capital have been successful in their bidding for this new supply. But even after that comes another movement, for the smaller markets are not directly represented in London, but must obtain the supplies of gold they need through their important correspondents.

"These three movements carry the gold from the place where it is mined to the lesser banking centers, where its distribution is complete. But the movement of the metal by no means comes to an end with its distribution. There follows a fourth movement, dependent entirely upon financial conditions, the movement which will often result in the practical transfer of all or part of some firmly established gold supply to some distant market."

There are three distinct influences which bring about such movements. The *first* is the necessity of making international payments for merchandise or securities at times when exchange is scarce; the *second* has to do with the maintenance or restoration of bank reserves, which can at times be accomplished only by the outright purchase of gold in other countries; the *third* is due to inter-

national operations where bankers are anxious to transfer large balances from one point to another, and not finding exchange available in quantity send gold instead.

From the very nature of these causes, it will readily appear that it is a mistake to imagine that the development of our international financial relations will eventually make it unnecessary to ship gold at all. Only one of them, the first, could possibly be affected by the arrangement of a system of international credits. These large payments by one country to another, such, for instance, as the payment for the Panama Canal or the payment to us of the San Francisco fire indemnity, continually have to be made, and often under circumstances and at times when it is impossible that there should be a sufficient amount of exchange available. It is hard to see how, even if an international system of crediting and debiting should be arranged, payments of this kind could eventually be settled by remittances of gold or exchange, and as for gold shipments arranged for the building up or maintenance of bank reserves, it will appear that, as the bankers of different countries become more closely allied, the interchange of gold is greatly facilitated. Through various causes the gold reserve of the banks, particularly the great national banks of Europe, becomes depleted at times, and then these institutions are apt to call upon their foreign connections to send them the gold they need.

The other reason which makes gold, often ap-

parently a settled reserve, move from one country to another is that in the highly developed state of the foreign exchange business, balances are continually being transferred to the points where they can be most advantageously used. As long as exchange on the point to which the transfer is to be made can be bought, that will be the form of remittance. When, however, exchange cannot be had, gold will be sent, and so it appears that the more balances transferred, the greater is apt to be the circulation of gold.

The importing of gold does not necessarily mean "good times" nor even "lower money rates," nor the exporting, the approach of a crisis; nevertheless important deductions may be made if monthly figures are systematically collected and tabulated thereon. These deductions have been summarized by Burton as follows:

"Every country will, under normal conditions, have a certain share of the gold or primary supply of the world. The different countries have been compared to reservoirs of water, of various sizes, connected by pipes. All the reservoirs will maintain the same level. The share of each country is determined primarily by its wealth. There is a tendency for metallic money, which is a form of wealth, to maintain in every country a fixed proportion to other forms of wealth. But the share of each is affected by the volume of its trade and other incidental circumstances, among which are established methods of transacting business, the habits of its people, and, notably, its currency system. The currency system affects the gold supply.

Paper money displaces gold, and causes it to be sent elsewhere in a less or greater proportion, according as it is absolutely based upon a deposit of gold, is redeemable in gold on presentation, or is not redeemable at all.

"Methods of transacting business influence the supply. Where balances are largely settled at clearing houses, and checks generally employed, less currency and less gold are required. In this particular, the contrast between England and France is very marked. The latter country makes less use of clearing houses and checks and accordingly requires a larger supply of gold and silver, the latter metal being extensively used.

"The habits of the people exercise an important influence. After the Franco-Prussian War it was found that the French peasant proprietors had hoarded large sums of gold. In the great emergency created, these amounts were brought out and assisted in the payment of the indemnity. Frequently when native grandees in India die, it appears that they have been accumulating a great stock of gold, much of it in the form of ornaments, which for years has been kept out of circulation. All this hoarding tends to increase the demand on the gold which is in circulation as money. The peasant, or grandee who hoards, causes so much of the world's capital to lie idle. The benefit accruing in time of crisis or emergency to countries in which quantities of gold are withheld from general circulation is obtained at the cost of diminished activity and volume of business under ordinary conditions.

"M. Paul Leroy-Beaulieu quotes figures to show that France in 1885 had a circulation of metallic money amounting to 215 francs per capita; England and the United States had, respectively, 86 and 68 francs per capita. Of course if the quantity of coin in circulation had been based upon per capita wealth at the time, England would have shown the largest quantity per capita, France next and the United States last.

"There is then a normal share of gold which belongs to each country. If any country has more than its share, it will export. It is easy to recognize that from a gold producing country, such as Australia, South Africa or Alaska, the greater part of the gold mined will be exported. Likewise, if gold is held in any one country in such quantity that it can be invested elsewhere more advantageously, either in loans or in purchases, or can be sent abroad in payment of debts, it will be exported. If it is invested in loans abroad, it is an indication of surplus capital and makes a favorable showing. If invested in purchases at low prices, it shows ability to draw upon other countries for an increasing share of objects of utility. If the purchases show that home prices are higher than foreign, and a supply of things usually obtained at home must be obtained abroad, the export of gold is a sign of danger. Thus an important question in determining the shipments of gold, is the nature of the purchases or investments to be made with it.

"The specie exports and imports of this country

have furnished distinct indications prior to each period of disturbance, but their significance cannot be understood without an examination not only of our general situation, but also of the particular situation at different times. Of the various circumstances under which excess of exports of gold indicate the approach of a crisis, may be mentioned the following:

"*First*, when gold is required for purchases abroad which are made at high and rising prices. This indicates overaction and concurs with unusual increase in the prices of domestic supplies. Especially is this true if, in a time of rising prices, gold is exported for commodities usually supplied by domestic production. Such a condition cannot long continue without a reaction and an ensuing depression. The indications which are significant in connection with the imports of merchandise apply to the exports of gold. On the other hand, the export of gold for purchases, when prices are low, is not an unfavorable condition. It indicates purchases upon advantageous terms.

"*Second*, when the export of gold is attended by a scarcity of money and a marked increase in the rate of discount, it is a decidedly unfavorable indication. This is of the same kind as those indications noticed in the conditions of banks. A steady increase in the rate of discount, or a decrease in the supply of gold, is a sure precursor of a crisis. The only question is how long this condition can continue without a crash.

"*Third*, an unusual balance of exports of gold,

not explained by surplus production, continued for a considerable time, or a sudden withdrawal of large amounts is one of the most unfavorable conditions. It is to be noted that there is an exceptional sensitiveness in financial centres on the subject of gold exports, and sometimes an entirely normal export is interpreted as meaning instability, and destroys confidence when there is no need for distrust."

It should be added that, when for a succession of years gold is withdrawn from circulation by reason of the substitution of inconvertible paper as money, the conditions which exist are sure to vary from normal lines. Credit will rest upon a false basis and the inevitable tendency will be towards an increase in the quantity of paper money outstanding and a dangerous expansion of credit.

In many respects the phenomena of a balance of gold exports are similar to those arising from a balance of merchandise imports. The two are expected to appear contemporaneously, but in essential particulars they are different. Some differences depend upon the question of gold production. In countries like South Africa and a portion of Australia, where gold mining is the leading industry, gold exports are naturally classed with merchandise exports, and an export is a favorable indication. In non-producing countries like England and France, where gold is in demand principally as money, imports are a favorable indication. There is another difference in a noticeable tendency towards contemporaneous decline in gold reserves in all the great financial centres. That which is lost

in one country is not gained in another. This decline is explained by the withdrawal of considerable amounts to be hoarded or retained in circulation outside of the banks; and, to some extent, to the transfer of gold to the countries outside of the most advanced industrial and commercial circle. The influences which cause gold to be hoarded or retained in circulation outside of the banks are not unlike those which affect the circulation of paper money. International credits or payments frequently cause an excess of gold imports in a country to coincide with an excess of imports of merchandise. Again, a large demand for money, manifesting itself in high rates of interest, may cause gold to be retained in a country contemporaneously with an unusual balance of imports.

For these reasons bankers and merchants systematically collect and tabulate monthly figures on "Gold Movements." This, moreover, has recently been done more than ever before and panics are now actually "stayed off" for a year or more by the artificial importing of gold by the banks of the affected country. "For banks to import gold it is necessary to create a credit on the books of a bank, upon which the gold importer may draw, through the Clearing House, in payment of the cable transfers and bills of exchange necessary to cover the amount of gold to be brought over. Clearing House Loan Certificates enable the banks to make these credits, and that is the reason we were able to import such a large volume of gold during 1906–7. The banks extended their facilities to the importers,

who brought over the gold on 'Trust Receipts,' which were deposited with the banks as collateral security pending the arrival of the gold."

These issues of Clearing House Loan Certificates also provided credit with which the banks were enabled to buy and pay for large amounts of the Panama bonds and United States Certificates of indebtedness, which were issued by the Government as a measure of relief. The bonds and certificates so purchased were then placed on deposit in Washington as security for the new national bank note circulation. Under the present laws, and according to the provisions of the Aldrich Bill, so called, it is imperative that the banks should first buy bonds, send them on to Washington, and wait for its preparation before they can receive the new circulation. The credit with which to purchase these bonds in times of panic must be obtained in some way, as there would be no reasonable excuse for paying our reserve money to buy bonds for circulation, if we were to receive no return on the same for a week or ten days, and then only in national bank notes, which cannot be counted as reserve.

The following conclusions are suggested relative to "Gold Movements":

As large or long continued gold exports* are al-

*"America's supply available for export is derived almost entirely from Australia and Africa, and is usually absorbed by the following countries:

	Aver. Yearly Net Imports	For 5 yrs. Ending with	Aver. Annual Production
France	a$75,800,300	1905	$502,400
Germany	a47,251,800	1905	66,600
United States	26,622,700	1908	90,435,700
Great Britain	18,597,300	1907	29,200
Argentina	16,698,400	1905	103,000
Egypt	a14,011,100	1905	.....
Switzerland	a13,574,700	1905	.....
Italy	a12,383,000	1905	39,600
Holland	a4,417,400	1905	.....

a Estimates of British statistical abstracts.

ways unfavorable signs and gold imports are always favorable signs, the following suggestions refer especially to exports.

1. *During a Period of Business Depression.*

(a) An increase in gold exports forecasts an increase in money rates; but sometimes signifies an improvement.

(b) A decrease forecasts lower money rates but usually signifies no improvement.

(c) No change is unfavorable or favorable according to whether gold is being exported or imported.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase forecasts an increase in money rates but usually signifies an improvement.

(b) A decrease signifies continued improvement and forecasts lower money rates.

(c) No change unfavorable or favorable, according to whether gold is being exported or imported.

Perhaps the most striking feature is that while the United States is the only one of these nations which produces considerable gold, yet we draw more heavily on the international supply than any other country except France and Germany; and our imports of gold usually result automatically from our large export balance of merchandise. The French absorption represents, in part, a measure for national defense, and in part interest payments on enormous French investments.

German demands result chiefly from its industrial expansion, with proportionate increase in demand for loans and currency. British imports during the five years were greater than usual, but there has been no material gain in either the gold reserves of British banks or the stocks of gold in use as money. The Argentine demand arises from the exceptionally rapid growth of Argentina's commerce and agriculture.

Demands from all these countries arise from pretty constant and well defined causes, and there is little prospect of any material change in the world's current of gold.

3. *During a Period of Prosperity.*

(a) An increase signifies no improvement and, if continued over a long period, often foretells the end of the period of prosperity.

(b) A decrease signifies continued improvement, but any exportation of gold should be considered as unfavorable.

(c) No change calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies no improvement and often calls for caution.

(b) A decrease is the normal result of a decrease in activity.

(c) No change is unfavorable or favorable according to whether gold is being exported or imported.

FOREIGN MONEY RATES AND FOREIGN EXCHANGE

These two subjects are usually discussed together, first because they are co-related and secondly, because the subject of foreign money rates of itself is not sufficiently important to be treated independently. All that need be said as regards foreign money rates is that money, like water, seeks its own level, unless artificially held or forced. Therefore, if money rates are low in the United States, but for some time have been high in England, Germany or France, money rates in the United

States are sure to increase soon, the increase to be followed possibly by a period of stringency. There are two reasons for this: first, the loans to American bankers by foreign bankers will be called for payment, or else the foreign rate will so be raised that it will be more profitable for the Americans to borrow at home; and secondly, foreign bankers will begin to borrow from America and thus take advantage of the lower American rates. As both of these causes are in operation at the same time, the rates very soon equalize, the foreign rates declining and the American rates increasing. The converse of this principle is also true. When the money rates in America are high, but the foreign rates have been low for some months, the tendency is for the American rates to decline and the foreign rates to advance.

When tabulating foreign rates, investors and merchants consider only the "rate of discount" of the three leading foreign banks; namely, the Bank of England, the Bank of France and the Bank of Germany. The tabulation and the interpretation of these rates is very simple, especially as the three rates are usually added and averaged, thus necessitating the use of only one table. The American merchant always keeps in mind, however, that low foreign money rates have their disadvantages as well as their advantages, as very often they signify a low condition of foreign trade which, during certain periods, may be spread to America.

The changes in the Bank of England rate in recent years have been as follows:

June 6, 1901 : 3½	Sept. 28, 1905 : 4	Nov. 7, 1907 : 7	Jan. 6, 1910 : 4
June 13, 1901 : 3	Apr. 5, 1905 : 3½	Jan. 2, 1908 : 6	Jan. 20, 1910 : 3½
Jan. 23, 1902 : 3½	May 3, 1906 : 4	Jan. 16, 1908 : 5	Feb. 10, 1910 : 3
Feb. 3, 1902 : 3	June 21, 1906 : 3½	Jan. 23, 1908 : 4	Mar. 17, 1910 : 4
Oct. 2, 1902 : 4	Sept. 13, 1906 : 4	Mar. 5, 1908 : 3½	June 2, 1910 : 3½
Oct. 31, 1902 : 4	Oct. 11, 1906 : 5	Mar. 19, 1908 : 3	June 9, 1910 : 3
May 24, 1903 : 3½	Oct. 19, 1906 : 6	May 28, 1908 : 2½	Sept. 29, 1910 : 4
June 18, 1903 : 3	Jan. 17, 1907 : 5	Jan. 14, 1909 : 3	Oct. 20, 1910 : 5
Sept. 3, 1903 : 4	Apr. 11, 1907 : 4½	April 1, 1909 : 2½	Dec. 1, 1910 : 4½
Apr. 14, 1904 : 3½	Apr. 25, 1907 : 4	Oct. 7, 1909 : 3	Jan. 26, 1911 : 4
Apr. 21, 1904 : 3	Aug. 15, 1907 : 4½	Oct. 14, 1909 : 4	Feb. 16, 1911 : 3½
Mar. 9, 1905 : 2½	Oct. 31, 1907 : 5½	Oct. 21, 1909 : 5	Mar. 9, 1911 : 3
Sept. 7, 1905 : 3	Nov. 4, 1907 : 6	Dec. 9, 1909 : 4½	Sept. 21, 1911 : 4
Feb. 8, 1912 : 3½	.....	.....	.....
May 9, 1912 : 3	.....	.....	.....
Aug. 29, 1912 : 4	.....	.....	.....
Oct. 17, 1912 : 5	.....	.....	.....

Foreign money rates, as affecting American money rates through the transferring of gold, are affected only by the purchase and sale of foreign exchange. Therefore, although merchants usually study only foreign money rates with their common knowledge of foreign exchange, yet theoretically, a study of foreign exchange will in itself suffice.

Foreign exchange is quoted both as to "actual rates" and as to "quoted rates." For a general description of these headings we quote Howard Irving Smith as follows:

"The quotation 'actual rate' means the rate at which exchange is sold in large amounts by the dealer; the quotation 'posted rate' means the preliminary asking rate of the day before an actual rate is

made, and this is the rate usually exacted for a small amount of exchange by a dealer. The actual and posted rates are the rates at which dealers sell bills of exchange issued by themselves. They do not, as a rule, announce the rates at which they will buy commercial bills of exchange; that is a matter of negotiation and depends on the nature of the bills. The newspapers, however, publish approximate prices for commercial bills.

"Foreign exchange is payable in the money of the country upon which the exchange is drawn, that is, where the exchange is payable. The equivalent of $1.00 in English money is 49.3 pence or four shillings 1.3 pence. When foreign exchange is quoted in the money of the country where it is bought, the unit of the money of the country where payable is figured at so much money of the country where the bill is issued. Thus, when sterling exchange is quoted at $4.8665, £1 in exchange is worth $4.8665.

"When foreign exchange is quoted in money of the country where it is payable (not where it is bought), the unit of money of the country where it is bought is figured at so much in the money of the country where the bill is payable. Thus, when exchange on France is quoted at 18 (5 francs, 18 centimes), $1.00 in exchange is worth 5.18 francs.

"When a bill of exchange is quoted in the money of the country in which it is issued, but is payable (is to be paid) in the money of the country upon which it is drawn (where it is payable), the higher the quotation, or rate, the higher is the cost of such exchange, for the reason that a high rate requires

more of the money of the country where the bill is purchased, to buy a given amount of the money of the country where the bill is payable than a low rate requires.

"On the other hand, when a bill of exchange is quoted in the money of the country upon which it is drawn (which is also the money in which it is to be paid), as francs, the higher the quotation the less the cost of such exchange, for the reason that more (in the foreign country's money) can be purchased for $1.00 at a high rate than can be purchased at a low rate.

"Illustration: If exchange for £1 is purchased for $4.89 it costs more than if purchased at $4.84. On the other hand, if exchange for 25 francs (5 francs, 25 centimes) is purchased for $1.00 it costs less than if $1.00 is paid for 511 francs; or, putting it the other way, $1.00 buys more in francs at the high rate than it does at the low rate.

"The amount paid for a time bill depends on the length of time it is to run and the rate of interest prevailing in the country where the bill is payable. A commercial bill payable in London three months after date is bought by a dealer in exchange in New York at a price which is equal to a bill payable on demand, less the three months' interest at the existing rate of interest in London. The London rate of interest serves as the basis in calculating the price of the bill, for the reason that the bill is payable in London and to make it equal to a draft payable on demand it must be discounted in London.

"High cost for exchange ordinarily means that

the international balance is against the country where the high cost prevails; conversely, low cost for exchange ordinarily means that the international balance is in favor of the country where the low cost prevails." *However, as all of this may be ascertained by a study of foreign money rates and other tables already mentioned, it is unnecessary for the merchant to collect or tabulate figures on foreign exchange.*

The fact is that, so far from financial panics being confined to the United States in 1907, a really formidable credit crisis occurred that year in at least four foreign cities situated in four separate continents, two of these markets being wholly unconnected in a financial way with the United States and the financial collapse occurring in two of them before the panic broke out in our country in October, 1907. As early as May, 1907, bank failures, hoarding of money and very general suspension of credit facilities were witnessed in Egypt, and London was hurrying along emergency shipments of gold to Alexandria, exactly as it hurried along the gold shipments to New York about six months later. At nearly the same time bank failures and panicky conditions on the markets were happening in Japan. In almost every week of our own October crisis, and on yet another continent, the powerful Banco Mobiliario of Valparaiso suspended payments, credit came to a halt in Chile, the currency sank to a low level of depreciation, and the Chilian Government was forced to take measures of relief. Again almost simultaneously with our own crisis, panic broke out in Hamburg, Germany, carrying

down two great commercial houses. Leading German financial experts pronounced the crisis the worst Hamburg had witnessed since 1857.

One hardly needs add to this list such other minor crises as the temporary breakdown in credit in Genoa in the middle of 1907, and the panic at Copenhagen, a few months after our own, which compelled the Danish Government to come to the rescue by guaranteeing the assets of banks then subject to a run by depositors. What this part of the history of 1907 conclusively proves is that financiers and historians must look elsewhere than to American legislation and American banking for causes of that year's panic. European economic experts have not found it difficult to assign the cause; it was indeed pointed out by the eminent Paris economist, M. Leroy-Beaulieu, even before the panic came.

"That cause was the exhaustion, in a violent world-wide industrial expansion and an even more world-wide speculation, of the world's accruing capital resources, and a consequent strain on credit which, throughout the financial world, approached the breaking point. With such a tension in the international chain of credit, the break was bound to come, either where the link was weakest or where the strain was greatest. The link was weakest in Chile and Egypt while the strain was incalculably the greatest in the United States, where speculation of an unheard of rashness and magnitude had been raging for two years. The severity of the shock in all these localities, and the world-wide liquidation and reaction, in both finance

and commerce which followed and which long prevailed, in Europe, Asia, Africa and South America, as well as in this country, were the logical and inevitable outcome." Therefore the necessity of studying foreign conditions and not simply conditions in only one country, is apparent.

The following conclusions are suggested relative to "Foreign Money Rates,"* as expressed in figures of foreign conditions.

1. *During a Period of Business Depression.*

(a) An increase in foreign money rates usually signifies higher domestic rates.

(b) A decrease signifies no improvement.

(c) No change signifies "no change."

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in foreign money rates or in foreign exchange usually forecasts higher domestic money rates, and may signify further improvement.

(b) A decrease often signifies no improvement.

(c) No change signifies normal conditions.

3. *During a Period of Prosperity.*

(a) An increase in foreign money rates or in foreign exchange usually forecasts higher domestic rates, and signifies no improvement.

(b) A decrease signifies continued improvement.

(c) No change means normal conditions.

*These figures are also of special value in judging the course of domestic rates.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase in foreign money rates or in foreign exchange usually forecasts higher domestic money rates, and no improvement.

(b) A decrease signifies the reverse, providing all other factors remain constant.

(c) No change signifies normal conditions.

PRODUCTION OF GOLD

As to the effect of the production of gold, there is a diversity of opinion. That it is a subject of great importance when a long period of years is considered is admitted by all; but many deny that it is of such importance when considering a period of only a few years. The theory that as the supply of gold (which is used as a standard of value and a medium of exchange) *increases*, interest rates and commodity prices must *immediately* increase, is actively combated by many authorities. If there were no other possible causes at work affecting interest rates and commodity prices, this theory would be taken more seriously, especially as it would involve a general decline in bonds and all *fixed interest* obligations; but even then it would be obliged to stand the test of experience.

The editor of the *Engineering and Mining Journal*, Mr. Walter R. Ingalls, claims to have shown by statistics and graphic diagrams, that there has been no correspondence between the fluctuations in the gold supply and those in prices. Going back to the

time of the first notable modern increase in gold production, he showed that for some years, beginning with 1851, there was an apparent parallelism, but there was a drop in prices after the crisis of 1857, and then a recovery and increase until 1864, though the production of gold was then falling off. After that prices declined until 1870, while the gold supply fluctuated within narrow limits; but in 1871 prices started up again, with gold production declining. During the fall in prices after 1873, there was an upward turn in the production of gold and by a peculiar perversity, in view of any theory of cause and effect, it fell off again after 1879 as prices began to rise. The decline in gold production continued until 1883 when there was another upward turn followed by a continued increase until 1896. The output was then more than double that of 1884 and the highest ever reached before that time; but during that period there was an almost continual decline in commodity prices, to contrast with the rise which took place, while the annual supply of new gold again doubled. This may not prove that the increased production of gold has had no effect upon its commercial value compared with the general mass of commodities, and consequently upon prices determined by its value as the standard of measurement and computation, but it does very conclusively refute the theory that the two things stand in the *closest* relation of cause and effect. There is certainly no close correspondence between them from year to year and the inevitable inference is that much more potent causes, than the

volume of gold in monetary use, are at work in determining the course of prices.

It is a question whether the demand for the use of gold as a basis of credit and exchange has not kept pace with the supply and prevented any absolute depreciation. Mr. Ingalls forcibly opposes the argument that the cost to capital and labor of producing gold has diminished and that available deposits are on the increase, with cheapening methods of extraction. In connection with the question of increased demand, he took the increasing production of pig-iron as fairly representing the advance made in industries and trade generally and showed both by figures and graphic diagrams that its increase has been relatively greater than that of gold.

The general subject of gold has best been presented in a book entitled "The Story of Gold" by Professor E. S. Meade; while the theory that the rise in commodity prices is due to the increased production of the metal is well described in the book entitled "Gold Supply and Prosperity," edited by Byron W. Holt of New York City, who is generally recognized as one of the best informed men on this subject. Professor Irving Fisher has also given a great deal of study to this subject, and his book, "The Purchasing Power of Money," and his other able studies on the decrease in the purchasing power of the gold dollar, etc., should be read by all who wish to be well informed concerning this important matter. Another book on this subject is "How to Invest When Prices are Rising," published by G. Lynn Sumner & Co., Scranton, Pa. Based upon

the assumption that the output of gold is to increase for the next ten years at an average rate of not less than 5%, Mr. Holt arrives at the following fourteen conclusions:—

"(1). That the value of gold will depreciate as the quantity increases, though not, perhaps, at the same ratio.

(2). That this depreciation will be measured by the rise in the average price level.

(3). That rising prices will soon lead again to rising and higher interest rates.

(4). That, because of high interest rates, the prices of bonds and most other long-time obligations drawing *fixed* rates of interest, dividends or income will again decline to low levels.

(5). That, because of rising prices and high interest rates, the cost of materials and supplies will tend to decrease the net profits of all concerns the prices of whose products or services either cannot be advanced at all or are not free to advance rapidly.

(6). That, because of rising prices, the net profits of all concerns that own their own sources of materials and supplies will tend to increase.

(7). That, because of rising prices of commodities, the market prices of all tangible property will tend to rise. This includes lands, mines, forests, buildings and improvements.

(8). That, because of rising prices of commodities and property, the prices of the stocks of corporations holding commodities or property will tend to advance.

(9). That, because of rising prices and there-

fore of cost of living, wages must and will, tend to advance.

(10). That, because wages and salaries will not rise as much or as fast as will prices and the cost of living, there will be dissatisfaction and unrest among wage and salary earners.

(11). That, because of rising prices and property, there will be much speculation in commodities, stocks and real estate.

(12). That, because of the great profits that will result from speculation, honest industry will be discouraged and recklessness and extravagance will be encouraged.

(13). That, because rising prices will decrease the purchasing power of debts, and thus aid debtors at the expense of creditors, they will discourage saving and thrift.

(14). That, then, an increasing output of gold means rising prices, rising wages, high interest rates, the scaling of debts, speculation, unjust distribution of earnings and wealth and general dissatisfaction and discontent."

These conclusions seem to follow each other logically, though their close connection is not wholly evident. The first two conclusions, being the more fundamental and important, Mr. Holt discusses as follows:

"It is almost inconceivable that an increasing supply and output of gold, the standard and measure of values, will not tend to raise prices. It is not asserted that a slight increase in the supply will cause prices to advance. The natural course of

prices, especially of manufactured goods, is downwards. To offset this cheapening tendency, due to invention and improvement, an increase of perhaps 2% a year in the supply of gold may be necessary. To offset the growing demand for gold, due to industrial expansion, an increase of perhaps 1% more a year may be necessary.

"An increase of perhaps 3% a year in the world's volume of gold, then, may be necessary to maintain stable prices. This being true, a smaller increase than 3% will result in declining prices, and a greater increase will result in advancing prices of commodities. An increase of 5% a year in the supply of gold then would cause prices to rise an average of 2% a year, and an increase of 8% in the supply of gold would cause prices to rise an average of 5% a year."

As to whether Mr. Holt or Mr. Ingalls is correct, the reader must decide for himself. It is very generally admitted that a sudden increase in the supply of gold at certain times gives impetus to business activity, results in the conception of new ventures and indirectly is accompanied by an advance in prices. This rising movement in prices of itself encourages speculation and the extension of credit to a dangerous degree. Large profits lead to waste and extravagance, which conditions are followed by a crisis and a period of depression. Therefore it seems reasonable to admit that the overproduction of gold is one factor causing increased prices, thus indirectly affecting business conditions; but it is very illogical to point to the production of

gold as *the only factor* affecting prices and interest rates. In fact, an increase in credits of any form (that is, bank deposits subject to check), and especially an increase in the velocity of circulation of said moneys and credits, are also important factors. The increase in population, the destruction of natural resources, industrial combinations, labor unions, increased cost of agricultural lands and many other factors tend to increase the prices of commodities, rates of interest and investment values.

Nevertheless, "Gold Production" is an important subject, and it is the practice of most careful bankers, manufacturers and merchants regularly to tabulate the monthly production of the Rand mines as an index of the world's production. Of this production it is said: "Treatment of ore in Johannesburg continues seven days a week, and February, with 28 days, is always a small month; while, other things being equal, a month with 31 days will have a bigger output than a month with 30 days. December is subject to special conditions, because there is a general clean-up at the end of the year, which always makes that month larger than others.

Month after month since the Boer War, the Rand output increased uniformly, with no check other than variation in length of month. A check to such an advance which has extended over five years or more would be very important. There are, of course, other centers of gold production like Alaska, whose wealth is said to be incalculable; but a real reduction in the Transvaal would be a practical fact as against a theory.

Reduction in the world's gold production at this time might not be felt for months, but it might mean ultimately a reduction in price of all commodities not artificially supported; an advance in price of bonds; a reduction in rate of interest on mortgages; lower wages in view of the consequent greater purchasing power of gold; and a decline in price of stocks caused by the transference of investments from stocks to bonds. This last development might occur because of the great purchasing power of interest on bonds, the collapse of any inflation movement in stocks, and the investor's preference for a safe investment. The following conclusions are suggested relative to "Gold Production":*

1. *During a Period of Business Depression.*

(a) A great increase tends at first to lower money rates, and may cause an improvement.

(b) A great decrease tends to increase money rates, and may signify no immediate improvement.

(c) No change signifies that money rates will be determined wholly by outside conditions.

2. *During a Period of Improvement Following a Period of Depression.*

(a) A great increase tends at first to lower money rates (although the later effect may be the reverse) and signifies continued improvement.

(b) A great decrease tends to increase money rates, and signifies no improvement.

*These figures have an immediate bearing on all money rates and a distant bearing upon the price of all commodities including money.

(c) No change signifies that money rates will be determined wholly by outside conditions.

3. *During a Period of Prosperity.*

(a) A great increase is very dangerous and calls for caution.

(b) A great decrease tends to upset conditions and also calls for caution.

(c) No change signifies that money rates will be determined wholly by outside conditions.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) A great increase tends to retard the readjustment.

(b) A great decrease tends to hasten the readjustment.

(c) No change signifies that money rates will be determined wholly by outside conditions.

COMMODITY PRICES

One cannot do better, when studying this subject, than to refer to Hon. Theodore E. Burton's book entitled "Crises and Depressions," in which, among other things, he states:—

"In the season of activity, which precedes a crisis, prices rise. This rise begins after the worst of the previous depression has been reached. Attention has already been called to the fact that the rise in prices is unequal in different commodities. Iron and steel in their various forms, as well as other commodities required for construction, and those which supply new demands of consumption, show

the most striking increases. During a depression, prices of these commodities fall first and most notably. The prices of other commodities do not fall so much or so early. In the preceding season of expansion they do not rise so much, and, in their rise as well as in their fall, they show, for the most part, only a remote effect of the activity or inactivity of the time.

"As is well known, it is the tendency of prices of iron and steel to reach and pass their maximum some time before the crisis occurs, though if the crisis be precipitated by an unexpected failure, the interval will be short or the high prices may continue until the very outbreak of the crisis.*

"In the United States, prior to the crisis of September 18, 1873, a low price level appeared in almost all grades of iron and steel in January 1871. This was followed by a rapid and almost unbroken rise, culminating in the months of October and November 1872. A maximum price of rolled bar iron, $118.72 at Philadelphia, was reached in October 1872. The price fell, with slight fluctuations, to $80.64 in September 1873, the month of the crisis.

"In the depression which followed the crisis of 1873, prices of a majority of the varieties of iron and steel fell to a minimum in the latter part of the year 1878, though steel rails and standard sections of iron rails fell to a minimum in the closing months of 1877. The month of November 1878 may, how-

*This is why the price of iron is tabulated each month — as a barometer for forecasting changes in general business; although — as will be seen from a chart in the earlier part of this book — commodity prices do not reach a minimum until one or two years after the stock market reaches its low point.

ever, be selected as the turning point. At that date No. 1 anthracite foundry pig-iron had fallen to $16.50 per gross ton, less than one-third the price of September 1872.

"In the expansion which followed 1878, prices reached their maximum in the months of January, February and March, 1880; but the highest figures were maintained only for a very short time. Anthracite foundry pig-iron, which had fallen to $16.50 in November 1878, rose to $41.00 in February, 1880; rolled bar iron to $85.12 in the same month; steel rails to $85; cut nails to $5.25 in the months of February and March. After the month of March, 1880, there was a sharp decline, though interrupted by numerous fluctuations. A steady decline began after the closing months of the year 1882, and continued until another minimum was reached in the summer of 1885. The crisis of May 1884 occurred in the midst of this downward movement and seems to have exerted but little influence upon the iron market. Anthracite foundry pig-iron fell to $17.75 in the months of June, July and August of 1885 and then began to rise. Rolled bar iron fell to $40.30 in May of the same year, and then was quoted at $40.32 for the remaining months of the year. Steel rails fell to $26 in the month of April.

"After the minimum point in 1885 there was an upward movement continuing until the earlier months of 1887, the months of February and March of that year showing maximum prices in most varieties of iron and steel; this maximum was succeeded

by a fall in the prices, which for most varieties reached a minimum in May and June 1889. This minimum was followed for a short time by rising prices, which reached a maximum in 1890. In the two decades after the maximum prices of 1880 the trend of prices differed from that in the preceding decade. Fluctuations were much more frequent and for nearly eighteen years the general tendency was downward, though interrupted by brief revivals in prices in the years 1882, 1886, 1887, 1890 and 1895. The rise in price which occurred in 1887 and other years proved to be greater than the increased demand would sustain. The general statement may be made that during this long period between 1880 and 1897, in fact until 1898, for there was only a slight rise in that year and the average price of several forms was less than in 1897, the demand did not keep pace with the increasing supply, and improvements in production were constantly exerting their influence. The increase in price in the United States in 1887 was greater than in other countries. The reason for the difference may be found in the exceptional demands in the year 1887, in which year occurred the most extensive railway building and the greatest consumption of steel rails. There was an exceptional deficiency in the home supply. There was also a revival of general activity in this country, the effect of which was conspicuous. It should be further noted that the crisis of this decade was much less severe than that of 1873, and the downward movement succeeding it, though long continued, manifested less decline in prices.

After the high prices of 1890, there was a fall which continued until the month of July 1897. This fall was more uniform than those after 1880 and 1887. It was interrupted only by a temporary revival beginning after April 1895, and continuing until the latter part of the year. Beginning in July 1897 prices show an upward tendency, but increases were slight until the beginning of 1899; then there was a very rapid rise until the latter part of the year, which continued, with the exception of a very slight setback in 1903, to the depression of 1907–8.

Again the improved conditions of 1909–10 were *preceded* by a remarkable increase in the price and production of iron, followed later by an increase in the production of copper and other commodities. From the high point of 1909–10, prices of iron and steel declined again to a low point in December 1911, followed by a rapid advance in 1912.

In the examination of these price movements several marked tendencies appear:

"(1). The interval between the date of the maximum prices and the succeeding crisis is longer in the later years. This interval continued for a few months prior to the crisis of 1825 and 1837, nearly a year prior to that of 1873, and several years prior to the crisis of 1884 and 1893. This longer interval may be explained by the greater ability to carry accumulated stocks in expectation of a rise, the larger influence of speculation, and the absorption whenever prices decline, of larger quantities by the market now existing.

These influences explain another tendency, viz.:

"(2). In later years fluctuations are more frequent. In the period after the downward price movement has commenced the market price breaks and then is restored again. It is evident that abundant capital for construction is waiting for investment and even in case of a slight decline, purchases are large and tend to bring prices to the former level.

"(3). Since 1873 the maximum price reached in each cycle tends to be less than that in the preceding cycle. This is due to invention, to the lower cost of manufacturing on a large scale, and improvements of transportation. This tendency to lower prices is a part of the progress of the time and an essential feature in each depression.

"(4). The upward movement of prices continues for a much shorter time than the downward movement. The upward movement preceding the maximum of October and November, 1872, continued for one year and nine months. The succeeding downward movement lasted until November 1878, or six years and one month. Then an upward movement continued until February, 1880, or one year and three months; the succeeding downward movement lasted approximately five and one half years, to the summer of 1885, to be followed by a rising movement interrupted in the United States in 1888 and 1889, of four and one-half years, or until January 1890. It is to be noticed, however, that the rise in most grades of iron and steel for a year after the summer of 1885 was very slight. After

January, 1890, the downward movement continued for seven and one half years, to July 1897, when prices for a year were almost stationary, to be followed by rising prices, which continued until the end of 1899 or less than a year and a half.

"(5). The rapid rise which precedes a maximum price rarely continues for more than a year. If we take anthracite and Bessemer pig-iron as the best standard, it will be noticed that prior to the maximum price of anthracite, September 1872, prices rose from $37 in January of that year; prior to the maximum of $41 in February 1880, prices had risen rapidly from $20.75 in August 1879, or for six months; prior to the maximum of $19.90 in January 1890, there was a rise from $17 in May 1889, or for eight months; prior to the maximum of $25 for Bessemer pig-iron in December 1899, there was a rapid rise from $11 in January of the same year, or for eleven months. In many respects the rise in 1899 was the most remarkable of all, because it had been considered by iron manufacturers in the preceding years that the equipment for production was sufficient to properly meet any increase of demand, and yet the rapid rise in that year was unprecedented. The great increase in the price of iron and steel in that year, with the steady increase in production after 1894, proves the more general use of these products for a greater variety of purposes and over an enlarged area."

For a general study of prices, bankers and merchants use Bradstreet's Index of American prices and the London Economist's Index of English

prices, and tabulate or plot these at regular intervals. It will be noticed in studying commodity prices, that the fall after a year of panic, curtailment and depression is usually considerably less than the preceding rise. For this fact there are two explanations.

One of these attributes the persistence of prices on high levels to the continuous output of gold which is now being supplied at a rate of more than a million dollars a day.* The other explanation finds the causes for the effect in question due to several different influences which have characterized the industrial and commercial world for fully a decade. It is well worth while setting over against the single item of gold supply these other factors as part of the dynamics which have helped to lift the great plane of values to the level where it has with proper exceptions and limitations, persistently stood for the past several years.

There are three at least, if not four substantial reasons why prices have risen so rapidly since the opening of this century and have been maintained so stubbornly.

"*First.* The first factor is the enormous increase in the world's purchasing power arising from the annual increment of values in the output of mines, agriculture, forests and other extractive industries. It is figured conservatively that in the past ten years there has been taken out of the earth and the waters of the United States alone a sum of

*See Prof. Irving Fisher's studies on the decrease in the purchasing power of the gold dollar.

natural values amounting to $92,751,000,000, as follows:

Mineral output (ten years)	$15,509,000,000
Agricultural products (ten years)	66,190,000,000
Lumber products (ten years)	10,535,000,000
Fishing, etc. (ten years)	517,000,000
Total for decade in United States	92,751,000,000

"*Second.* Another factor in maintaining high prices is the expansion in the geographical area of productive enterprise over new territories which during the last decade have for the first time been fairly incorporated into the world's market. Within this period nearly the whole of Siberia has been added to the world's trading area, through the enormous outlay required to build the Trans-Siberia Railroad. Every foot of this trans-continental thoroughfare was accompanied by the creation of new demand for commodities, new capital for development and by the manifestation of new power to purchase. What was done in Siberia in an extensive way has also been done in Japan, China, India, Egypt, Australia, Africa, South America, Mexico and Canada, since prices began their upward movement in 1897. The work of money, as well as the work of man and of his implements of production, has all been earning an increasing income, which almost immediately manifests itself in an expanding demand upon the industrial nations for their output.

"*Third*, the maintenance of high prices is probably due to the rise of the standard of living which a decade of increasing wealth has first produced,

and then established with a resisting power that even in times of depression resists with a new force any recession in its newly gained advantages.

"*Fourth*, there is a final factor behind existing price levels in the forms of the wastes of wars and in the millions of misdirected capital which have helped to enhance the costs of profitable production. The power behind high prices is not the uplift of gold but rather the aspiration of man, whether seen in the individual's impulse to gain income or in large-scale production to control markets. Gold as a dynamic element has its part, but as a measure of value it is a gauge rather than a cause."

Therefore the price of commodities is one of the best of business barometers and all merchants and bankers systematically tabulate each month the "Index Number" compiled by Bradstreet or others, supplemented with figures on the price of iron, copper, cotton, etc. Such figures especially interest bankers since much more money is needed to finance a given volume of business with high prices than with low prices. Therefore, an increase in interest rates usually follows a decided advance in commodity prices.

The following conclusions are suggested relative to "Commodity Prices."

1. *During a Period of Business Depression.*

(a) An increase in commodity prices during a period of depression, *after a period of low commodity prices*, signifies that the depression has come to an end and improvement has begun, provided such an increase has been preceded by a distinct decrease.

(b) A decrease in commodity prices is normal and signifies no improvement.

(c) No change calls for caution.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase following a decrease signifies continued improvement.

(b) A decrease may signify that the period of improvement is progressing satisfactorily, or it may signify a temporary check.

(c) No change calls for caution.

3. *During a Period of Prosperity.*

(a) A great increase in commodity prices signifies no further improvement, and often is one of the signs of the end of this period.

(b) A decrease is very unusual and should be carefully investigated.

(c) No change calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is not unusual as commodity prices sometimes continue to increase about one year after the decline in stocks takes place. Such an increase, however, clearly signifies that no immediate improvement may be expected.

(b) A decrease signifies that the period of decline is progressing satisfactorily and may forecast an improvement.

(c) No change is normal at the beginning of this period.

Students desiring a popular discussion of this subject are advised to read the report published by the State of Massachusetts on the "Increased Cost of Living" in May, 1910, — Robert Luce, Esq., 60 State St., Boston, Chairman.

The most scientific discussion of prices may, however, be found in Prof. Irving Fisher's book, entitled "The Purchasing Power of Money" and published by Macmillan & Co., New York. Professor Fisher deserves the very highest commendation for his original researches along these lines, and all of his works deserve the most careful attention.*

*See page 242

CHAPTER VIII

SUBJECTS RELATING ESPECIALLY TO INVESTMENT CONDITIONS

(For figures for years later than those herein given, see the large sheet contained in the Addenda.)

STOCK EXCHANGE TRANSACTIONS

THERE are three features in connection with the New York Stock Exchange which are of value in forecasting business conditions. They are as follows:

1. The Quotations.
2. The Transactions.
3. The New Securities Listed. (See section entitled "New Securities," page 346.)

QUOTATIONS

When studying the quotations, only a long period of time showing the general tendency should be considered. The fluctuations from day to day are of no value whatever, nor are the swings covering only a period of a few weeks. A study of the general tendency of the market, however, is of considerable value in forecasting business conditions.

If the highest point of each successive swing is higher than the high point of the preceding swing, and if the low point of each successive swing is not so low as that of the preceding swing, then the tendency of the market is upward. If the last high point and the last low point are lower than the high points and low points of earlier periods, then the tendency of the market is downward.

In order to study this matter intelligently, a plot

should be made of the average prices of the leading railroad and industrial stocks. The list which many merchants and investors use in connection with this work is as follows:

"Central of New Jersey," "Chicago, Milwaukee & St. Paul," "Delaware & Hudson," "Great Northern," "Illinois Central," "Louisville & Nashville," "New York Central," "N. Y., N. H. & Hartford," "Pennsylvania" and "Pullman." The average prices for these ten since 1860 are given in another chapter of this book.

The *Wall St. Journal* also has a list which is, however, more for the speculator than the investor. This is known as the "list of 32 stocks" and contains 12 industrial stocks: Smelters com., Amalgamated Copper, Rubber pfd., National Lead Co., U. S. Steel pfd., People's Gas, U. S. Rubber, U. S. Steel com., Sugar com., General Electric, Central Leather, and American Car & Foundry; and 20 active railway stocks: Atchison, Rock Island, Canadian Pacific, Delaware & Hudson, Northwest, St. Paul, Lehigh Valley, Erie, Louis. & Nash., Northern Pacific, Missouri Pacific, N. Y. Central, Pennsylvania, Reading, Southern Pacific, Southern Railway com., Union Pacific, Norfolk & Western, Baltimore & Ohio and Illinois Central.

As an aid in determining the tendency of the market, merchants make a dot at the center of each movement, or midway between the high point and the low point of each main swing. These dots are then connected with a line and this line shows at a glance the tendency of the market.

When two or three plots are made, it is interesting to compare a railroad plot with one for industrials, as there is a constant, though complicated relation between the two. Space does not permit a description of this matter in detail, so it must suffice to state that a change in conditions may sometimes be discerned more quickly by having the two plots, one for railroads and the other for industrials, than if both are averaged together on the one plot. However, as *the industrial quotations almost always follow the railroad quotations, both in a rising market and in a falling market, one plot simply for the ten stocks above mentioned is perfectly satisfactory and avoids confusion.*

Another interesting plot is that for bond prices, and many merchants use the following ten as an index of this market: Atchison, Top. & Sa. Fe. Gen. 4's; Baltimore & Ohio 1st 4's; Central of Georgia Cons. 5's; Central New Jersey Gen. 5's; Chicago & Alton Ref. 3's; Col. & Southern 1st 4's; New York Central 3½'s; St. Louis & Sa. Fran. Ref. 4's; Southern Ry. Consol. 1st 5's; Wabash 1st 5's. Usually a change in the bond market precedes a change in the stock market.

If considered in a conservative manner, the tendency of the stock market is very interesting to merchants when endeavoring to forecast business conditions. This is due to the fact that a change in the stock market is often the first *visible* sign of a change in general business conditions. Railroad earnings are absolutely dependent upon business conditions, and stock market quotations are ulti-

mately dependent upon earnings. Therefore, a rising market over a certain period of time, means that the majority of operators believe that fundamental conditions are more sound, while a falling market means that these operators believe that fundamental conditions are unsound and unsatisfactory. In other words, a study of the stock market gives one a composite idea of the opinions of the ablest bankers and brokers. This is the reason why the stock market often turns to go down while railroad earnings are increasing, and often turns to go up while railroad earnings are still decreasing. In order that an operator may make money, some other operator must lose money. Therefore, the one who makes the most is not only the one who guesses right, *but the one who makes the right guess first.* For this reason stock market movements are the first *public* sign of a marked change in fundamental business conditions. *All plots of prices should, however, be supplemented by a plot of what the given stocks yield in order to allow for the changes in dividend rates.*

TRANSACTIONS

A study of "Quotations," without due consideration of "Transactions," is of little value, because a rising market, during which only a few shares change hands, means very little, as such a market may be the result of manipulation. In the same way a falling market, when only a few shares change hands, may mean very little. In order to reach a correct conclusion, the "quota-

tions" should be considered in connection with the "volume." The *principle* which we have in mind is the same as "foot-pounds" in mechanics. "Pounds" by themselves are meaningless, and "feet" by themselves have no significance to the engineer. It does not mean very much to say the power is sufficient to lift a body weighing a hundred pounds or the power is sufficient to move a body one hundred feet. But when one states that there is power enough to lift one hundred pounds through one hundred feet of space, it is possible to judge correctly the power involved. A similar relation exists between the "Quotations" and the "Transactions."

Therefore the leading bankers not only tabulate the quotations of the leading stocks and bonds, but also the "transactions." When the volume of business for any one or more months is constant, one may judge business conditions by the quotations alone, but unless this volume is constant, its variations should always be taken into account. An average rise in the market of only 1% with a daily volume of 2,000,000 shares signifies a different state of affairs from that of a rise in the market of 1% with a daily volume of only 200,000 shares.

Plots and charts are used by some stock exchange houses in endeavoring to prophesy changes and turns in the market. Statisticians of stock exchange houses are interested in studying these theories, but merchants *should purposely avoid the subject.* If followed too closely, these stock market plots are apt to be misleading, and by

turning one's attention from the main object of this work, are a hindrance. The business of the merchant is not to anticipate *stock exchange* movements, but *business* movements. Although there is a relation between the two, they are, for the most part, quite distinct.

The following conclusions are suggested relative to "Stock Exchange Conditions."*

1. *During a Period of Business Depression.*

(a) An increase is a distinctly favorable sign that better trade conditions may be expected.

(b) A decrease is a sign that continued dullness may be expected.

(c) No change signifies uncertainty.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase signifies continued improvement.

(b) A decrease signifies no improvement.

(c) No change signifies temporary uncertainty.

3. *During a Period of Prosperity.*

(a) A great increase usually is a very unfavorable sign.

(b) A great decline calls for caution.

(c) No change signifies temporary uncertainty.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies that liquidation is in progress.

*In all studies of "transactions" it must always be noted whether the transactions increase when the prices are increasing or decreasing.

(b) A decrease signifies less satisfactory conditions.

(c) No change signifies temporary uncertainty.

NEW SECURITIES

The reason for studying the subject of "New Listings" may be understood by a review of the three following laws of economics:

1. *During a Period of Prosperity, as the number of new companies, new promotions and new securities listed increases, the danger of a panic increases and the time between said Period of Prosperity and a future Period of Depression decreases.*

2. *When the number of new promotions, new companies and new listings is at a minimum, financial depression is sure to be reaching an end.*

3. *As the number of new companies, new promotions and new listings increases from a minimum, the gradual increase is a sign of improved conditions until the normal number of new companies, new promotions and new listings is reached, after which an increase again becomes a source of danger.*

Out of the list of twenty-five subjects of which this book treats, this one, namely, "The Number of New Companies, New Promotions and New Securities Listed," is the one by which it was most clearly possible to forecast the panic of 1903. For this reason this panic was said to be due to "undigested securities" and was known as "The Rich Man's Panic."

Of course one cannot rely upon the study of this one subject, as many panics have taken place when

the figure for "New Securities" has been normal and the change in conditions could only have been forecasted by a study of the other subjects. In fact, the difficulty in studying this subject is that the figures remain very constant for a long period of time, and it is only the great movements up or down which are of any use.

Under normal conditions a study of this subject is of little value, but it is most useful under abnormal circumstances. If we are in a period of depression and we reach a period where no new companies are incorporated and there are absolutely no new promotions or listings, we may be sure of better conditions in the near future. Conversely, if we are in a period of prosperity and there are an abnormally large number of promotions, an abnormally large number of new corporations being formed and new securities being listed, we may be absolutely sure of trouble. This usually comes first in the form of tight money, followed immediately by a decline in the bond and stock market, and later by a period of depression in business conditions.

The following figures clearly show this, particularly in connection with the panic of 1903:

Year	Stocks: Total value including new capital, old and refunding issues	Year	Bonds: Total value including new capital, old and refunding issues
1885	$56,913,116	1885	$197,259,000
1886	329,469,350	1886	238,097,690
1887	270,053,550	1887	343,477,321
1888	248,228,275	1888	511,002,218
1889	259,649,774	1889	389,720,000
1890	437,992,330	1890	684,867,879
1891	188,914,954	1891	287,645,700

Year	Stocks: Total value including new capital, old and refunding issues	Year	Bonds: Total Value including new capital, old and refunding issues
1892	237,036,105	1892	317,861,500
1893	198,245,261	1893	288,803,400
1894	251,193,003	1894	309,804,600
1895	143,373,970	1895	257,275,400
1896	590,732,215	1896	582,286,700
1897	502,974,891	1897	357,415,902
1898	528,153,996	1898	700,064,680
1899	704,172,605	1899	525,384,240
1900	620,935,000	1900	443,713,000
1901	1,642,013,715	1901	923,010,100
1902	784,032,595	1902	a533,519,300
1903	426,890,295	1903	581,288,800
1904	175,866,800	1904	535,079,600
1905	533,434,900	1905	980,026,650
1906	662,769,450	1906	b571,898,500
1907	576,032,050	1907	420,813,000
1908	513,927,450	1908	872,958,000
1909	1,325,526,485	1909	1,098,956,500
1910	1,239,501,545	1910	808,162,500
1911	643,614,830	1911	580,834,400
1912	1,161,030,790	1912	654,977,750

(a) Does not include Imperial Russian State 4% Certificates $1,155,000,000.

(b) Does not include $425,000,000 Japanese Government bonds.

Therefore all the merchants systematically tabulate each month the amount of new securities admitted to the list, although the "stocks" and "bonds" are added; thus avoiding the necessity of two tables.

The following conclusions are suggested relative to "New Securities."

1. *During a Period of Business Depression.*
   (a) An increase signifies improvement.
   (b) A decrease signifies no improvement.
   (c) No change generally calls for caution.

2. *During a Period of Improvement Following a Period of Business Depression.*
   (a) An increase signifies continued improvement.
   (b) A decrease signifies no improvement.
   (c) No change calls for caution.

3. *During a Period of Prosperity.*
   (a) An increase, especially if great, is a sign of no further improvement, and the culmination of the period of prosperity.
   (b) A decrease tends to lengthen this period of prosperity and thus signifies continued improvement.
   (c) No change usually calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*
   (a) An increase signifies no improvement.
   (b) A decrease indicates that conditions are naturally adjusting themselves.

(c) No change signifies no improvement, if large issues are still being offered, but otherwise it shows nothing of importance.

CROPS AND PRODUCTION OF COMMODITIES

This subject does not now hold the same relative importance in the study of Fundamental Statistics that it held when statistics on other topics were less carefully compiled. But since the full annual harvest of the grains and cotton is one factor at the bottom of American business prosperity, the condition of the standing crops will always be interesting and valuable as a barometer. Of all subjects studied by the merchant and investor it is the only one which the Government attempts to forecast. Figures on banking conditions, labor conditions, imports and exports are accumulated by the Government and are valuable as a matter of history; but for none of these subjects is there any official attempt to use the figures for forecasting conditions.

But in the subject of crops, not only does the Government publish a report on their amount and condition in various stages from planting to the beginning of harvest, but it makes a prediction for the benefit of business interests of what the total crop is likely to be. It has been well proved that this forecast made by the Government is better than any forecast which at the present time can be made by any association of merchants or bankers independently.

For this reason the method of compiling and

distributing these forecasts should be clearly understood and the following is a detailed explanation by Chas. C. Clarke, formerly of the U. S. Bureau of Statistics:

"There are three divisions in the Bureau of Statistics of the Department of Agriculture: the Division of Domestic Crop Reports, the Division of Production and Distribution, and the Division of Research and Reference, each of which has a chief of division reporting directly to the Statistician.

"Statistical information concerning crop production and live stock that is collected by the slow and exact methods of a census is generally not given to the public until after the crops enumerated are harvested and marketed and the immediate interest in it has passed away. Prices of agricultural products are primarily governed by the law of supply and demand; therefore early information concerning the supply is of value to all. Those who produce and those who consume are vitally interested as well as the dealer who stands between them. The relations and mutual interests of agriculture, manufacture, and commerce demand that there should be published at brief intervals during the crop season reliable information on the condition, acreage, production, and value of the principal crops, by States and agricultural areas.

"As commerce consists largely in an exchange of the products of agriculture and manufacture among their respective producers, commerce thrives as the farmer and the factory operative prosper.

Some individuals, however, do not always regard the common welfare, and injurious commercial speculations occur when ignorance prevails concerning the condition of our crops and the true relations of supply and demand. At such times the farmer often does not obtain just prices, while the consumer derives no benefit and business is injuriously affected. The consequences of false reports concerning the condition and prospective yield of the cotton crop alone may be very injurious. If there were no adequate Government crop-reporting service, and by misleading reports speculators should depress the price a single cent per pound, the growers would lose $60,000,000 or more; if the prices were improperly increased, the manufacturers and allied interests would be affected to a proportionate degree. All interests therefore demand that the true condition of crops should be made known promptly, and harmful speculation discouraged.

"The Bureau of Statistics issues each month detailed reports relating to agricultural conditions throughout the United States, the data upon which these facts are based being obtained through a special field service, a corps of State statistical agents, and through a large body of voluntary correspondents composed of the following classes: county correspondents, township correspondents, individual farmers, and special cotton correspondents.

"The special field service is composed of nineteen traveling agents, each assigned to report for a

given group of States. They are especially qualified by statistical training and practical knowledge of crops. They systematically travel over the districts assigned to them, carefully note the development of each crop, keep in touch with best informed opinion, and render written and telegraphic reports monthly and at such other times as required.

"There are forty-seven State statistical agents, each located in a different State. Each of these reports for his State as a whole, and maintains a corps of correspondents entirely independent of those reporting directly to the Department at Washington. These State statistical correspondents report each month directly to the State agent on schedules furnished them. These reports are then tabulated and weighted according to the relative product or area of the given crop in each county represented, and are summarized by the State agent, who co-ordinates and analyzes them in the light of his knowledge of conditions derived from personal observation and other sources, and prepares his monthly and other written and telegraphic reports to the department.

"There are approximately 2,800 counties of agricultural importance in the United States. In each of these counties the Department has a principal county correspondent who maintains an organization of several assistants. These county correspondents are selected with special reference to their qualifications and constitute an efficient branch of the crop-reporting service. They make

the county the geographical unit of their reports, and after obtaining data each month from their assistants and supplementing these with information obtained from their own observation and knowledge, report directly to the Department at Washington.

"In the townships and voting precincts of the United States in which farming operations are extensively carried on, the Department has township correspondents who make the township or precinct the geographical basis of reports, which they also send directly to the Bureau of Statistics each month. Finally, at the end of the growing season, a large number of individual farmers and planters report on the results of their own individual farming operations during the year; and valuable data are also secured from 30,000 mills and elevators.

"With regard to cotton, all the information secured from the foregoing sources is supplemented by that furnished by special cotton correspondents, embracing a large number of persons intimately concerned in the cotton industry, and, in addition, inquiries in relation to acreage and yield per acre of cotton are addressed to the list of cotton ginners through the courtesy of the Bureau of the Census.

"Eleven monthly reports on the principal crops are received yearly from each of the special field agents, county correspondents, State statistical agents, and township correspondents, and one report relating to the acreage and production of

general crops is received during the year from individual farmers.

"Six special cotton reports are received during the growing season from the special field agents, from the county correspondents, from the State statistical agents, and from township correspondents, and the first and last of these report relating to the acreage and pro-individual farmers, special correspondents, and cotton ginners.

"The general reports for January and February are combined on one schedule and relate to the number and value of farm animals.

"The general report for March relates to the stock of grain in farmers' hands, the distribution and consumption of corn, wheat, and oats, and the average weight per bushel of wheat and oats.

"Reports on the condition of the crops of the year begin with the April report, when the condition of winter wheat and rye is dealt with, prevailing diseases of farm animals, and losses from disease and exposure.

"The report for May comes at a time when few of the crops are sufficiently advanced for their condition to be reported upon; consequently the inquiries relative to condition apply only to winter wheat, rye, meadow mowing lands, and spring pasture. This schedule also deals with the portion of the original acreage sown to winter wheat if, for any reason, any has been or will be abandoned, and contains inquiries with regard to farm labor and tenants.

"The schedule for June deals with the acreage

of six crops, the most important of which is spring wheat. It also covers the condition of wheat, oats, barley, rye, clover, spring pastures, apples, peaches, and rice.

"The July schedule deals with the acreage of corn, potatoes, tobacco, and sugar cane; the stocks of wheat in farmers' hands; the average condition of all the principal crops, fruits, and spring pastures, and the average weight of wool per fleece.

"The August schedule deals with the average yield of winter wheat per acre, acreage of buckwheat and hay, the condition of the principal crops, the quality of clover hay, and the stocks of oats in farmers' hands.

"The September schedule deals with the condition, when harvested, of wheat, oats, barley and rye; the acreage of clover seed; the production of peaches, and the number and condition of stock hogs on hand for fattening.

"The October schedule deals with the average yield per acre and the quality of spring wheat, barley, oats, rye and hops, and the condition of corn, potatoes, sugar cane, tobacco, rice and apples.

"The November schedule deals with the average yield per acre of corn, buckwheat, potatoes, hay, tobacco and rice.

"The December schedule deals with the production and farm prices of all the principal crops, and the acreage of winter wheat and rye sown for the crop of the following year, and also with the condition of winter wheat and rye.

"In addition to the foregoing, the reports during

the past two years have been extended to include condition figures of many small fruits, vegetables and minor products. Information in regard to such products has been urgently requested, and as a basis for comparison has now been satisfactorily established, the reports are received with interest and favorable comment.

"Previous to the preparation and issuance of the Bureau's reports each month, the correspondents of the several classes send their reports separately and independently to the Department at Washington.

"In order to prevent any possible access to reports which relate to speculative crops, and to render it absolutely impossible for premature information to be derived from them, all of the reports from the State statistical agents, as well as those of the special field agents, are sent to the Secretary of Agriculture in specially prepared envelopes addressed in red ink with the letter "A" plainly marked on the ends. By an arrangement with the postal authorities these envelopes are delivered to the Secretary of Agriculture in sealed mail pouches. These pouches are opened only by the Secretary or Assistant Secretary, and the reports, with seals unbroken, are immediately placed in the safe in the Secretary's office, where they remain sealed until the morning of the day on which the reports are issued, when they are delivered to the Statistician by the Secretary or the Assistant Secretary. The combination for opening the safe in which such documents are kept is known only to the Secretary

and the Assistant Secretary of Agriculture. Reports from special field agents and State statistical agents residing at points more than 500 miles from Washington are sent by telegraph, in cipher. Those in regard to speculative crops are addressed to the Secretary of Agriculture.

"Reports from the State statistical agents and special field service in relation to non-speculative crops are sent in similar envelopes marked "B," which go to the Bureau of Statistics, and are kept securely in a safe until the data contained in them are required by the Statistician in computing estimates regarding the crops to which they relate. The reports from the county correspondents, township correspondents and other voluntary agents are sent to the Chief of the Bureau of Statistics by mail in sealed envelopes.

"The plan of intrusting the final preparation of reports to a crop-reporting board has been continued during the past year, and after several years of trial it has been demonstrated that such is an excellent and satisfactory method. It relieves one man of the strain and responsibility, and secures the benefits of consultation and a consensus of judgment of men who have been on the ground.

"The Crop Reporting Board is composed of the Chief of Bureau as chairman, and four other members, whose services are brought into requisition each crop-reporting day from among the statisticians and officials of the Bureau, and the special field and State statistical agents who are called to Washington for the purpose.

"The personnel of the board is changed each month. The meetings are held in the office of the Statistician, which is kept locked during sessions, no one being allowed to enter or leave the room or the Bureau, and all telephones being disconnected.

"When the board has assembled, reports and telegrams regarding speculative crops from State and field agents which have been placed unopened in a safe in the office of the Secretary of Agriculture, are delivered by the Secretary, opened and tabulated. The reports, by States, from the several classes of correspondents and agents relating to all crops dealt with are brought together in convenient parallel columns on final tabulation slips. The board is thus provided with several separate estimates covering each State and each separate crop, made independently by the respective classes of correspondents and agents of the Bureau, each reporting for a territory or geographical unit with which he is thoroughly familiar.

"Abstracts of the weather condition reports in relation to the different crops, by States, are also prepared from the weekly bulletins of the Weather Bureau. With all these data before the board, each individual member computes independently, on a separate sheet or final computation slip, his own estimate of the acreage, condition, or yield of each crop, or of the number, condition, etc., of farm animals for each State separately. These results are then compared and discussed by the board under the supervision of the chairman, and

the final figures for each State are decided upon. It has been interesting to note how often the reports of the different classes of correspondents and agents are very nearly identical and how closely the figures arrived at independently by the individual members of the board agree. The estimates by States as finally determined by the board are weighted by the acreage figures for the respective States, the result for the United States being a true weighted average for each subject.

"Reports in relation to cotton, after being prepared by the Crop Reporting Board, and personally approved by the Secretary of Agriculture, are issued on the second or third day of each month during the growing season, and the reports relating to the principal farm crops and live stock are prepared and made public on the ninth or tenth day of each month. In order that the information contained in these reports may be made available simultaneously throughout the entire United States, they are handed, at an announced hour on report days, to all applicants and to the Western Union Telegraph Company and the Postal Telegraph Cable Company, who have branch offices in the Department of Agriculture, for transmission to the exchange and to the press. These companies have reserved their lines at the designated time, and forward immediately the figures of most interest. A mimeograph or multigraph statement also, containing such estimates of condition or actual production together with the corresponding estimates of former years for comparative purposes, is pre-

pared and sent immediately to exchanges, newspaper publications and individuals. The same afternoon printed cards containing the essential facts concerning the most important crops of the report are mailed to the 58,729 post-offices throughout the United States for public display, thus placing most valuable information within the farmer's immediate reach.

"Promptly after the issuing of the report, it, together with other statistical information of value to the farmer and the country at large, is published in the *Crop Reporter*, an eight-page publication of the Bureau of Statistics, under the authority of the Secretary of Agriculture. An edition of over 175,000 copies is distributed to the correspondents and other interested parties throughout the United States each month. Thus the information is spread broadcast."

As the government crop statistics are necessary and valuable as business barometers, so figures showing the *production* of *leading commodities* are of intense interest.

The production of iron, for example, reported by the two leading weeklies on the subject, is a very important factor in determining present conditions and forecasting future conditions. This was especially true before the United States Steel Corporation was formed and to a large extent is also true to-day. Figures regarding pork, copper, wool, coffee, rubber, sugar and other commodities are also of interest. A decrease in the production of commodities is always accompanied by a decrease

in activity, which means that men and capital are idle. This reduced activity, if pressed beyond a certain point, will result in a crisis followed by a period of depression.

A large part of the income of the railroad lines is derived from the shipments of grain, produce and cotton. A total of 78,736,587 tons of agricultural products was given to the roads from their own territory in the year 1910; of this tonnage, grain contributed 37,420,965 tons, flour and other mill products nearly 15,000,000 tons more, and cotton 3,023,757 tons. Some idea of the great volume of this agricultural product appears in the realization of the fact that it represents over 8% by weight of the total freight originating along the line of the railroads; while the entire soft coal tonnage originating on these traffic lines is only 257,460,017 tons, or about 33% of the total freight.

It is, therefore, not to be wondered at, that in times that are dull in the manufacturing world, or in the general trade, great wealth may be brought to the railroads, and through them to the nation, by the moving of successful crops. Years of very rich harvests, such as 1906 and 1912, may increase enormously the revenue of every railroad in the country.

If the good years have such an effect on the general prosperity of the United States, it is not surprising to see the tide turned in the opposite direction by a yield below the average. Crop values reach more than $3,000,000,000, and a fluctuation of $500,000,000, or over in this great total repre-

sents a sum of money about three times the total bank clearings of the country. Such a fluctuation has in every way a wide spreading effect on the business of the country. Even partial crop failures may result at once in a depression, and bumper crops may boom a stock market as no other influence has power to do. Full crops yield a surplus for export and help pay a nation's debt; they may create a credit and turn an adverse gold movement into a favorable balance and increased imports of gold. Viewed from all parts then, the progress of the crops and the study of crop statistics should be regarded as of the utmost importance.

One writer states:

"The country requires an increase in yield of at least 5% in all its principal crops, cotton perhaps excepted; and in some cases an increase of at least 10% would be advisable, either through larger acreage or better cultivation. This would insure more reasonable prices for food products, thus reducing the cost of living about which so much just complaint is heard. It would also stimulate larger exports, the decline of which during some years has been one of the most unfortunate accompaniments of our business depressions. Larger exports of agricultural products would do more than anything else toward restoring the equilibrium of our foreign trade and would stimulate business at home."

The profits, and therefore the stocks of railroad companies, which operate through the grain and cotton sections, are affected in the most direct and

powerful manner by the promise of generous or stunted crops. Investors need to keep in touch with the crop outlook. Wall Street always discounts the future and never waits for earnings to be affected actually before adjusting prices to what it sees coming.

A slackening in the investment business comes during a great boom, and precedes every financial crisis; and every investor should be as alert to detect the signs of a coming change of importance as are the bankers, brokers and stock operators, who are continually watching the crops as well as the Composite Plot.

It is axiomatic that all railroads are affected directly and seriously by crop conditions, and industrial stocks peculiarly so. Therefore the subject of "Crops" is one which requires constant attention, and never more so than when a boom or reaction has run on for a number of months or years. *Conservative merchants and investors therefore tabulate each month as published, the Government estimate of the wheat, corn and cotton crops, then in the ground, together with the annual figures when the crops have been harvested.*

The following conclusions are suggested relative to "Crops and other Commodities":*

1. *During a Period of Business Depression.*

(a) Improved crop conditions are often the beginning of a period of improvement.

*The condition of the crops has direct bearing upon the condition of the farmer, and an indirect interest for every investor and merchant.

(b) Poorer crop conditions delay an improvement in general business, or signify no improvement.

(c) No change is favorable or unfavorable according as to whether this means good crops or otherwise.

2. *During a Period of Improvement Following a Period of Depression.*

(a) Improved crop conditions always give an impetus to the general improvement in conditions, and thus signify continued improvement.

(b) Poorer crop conditions usually signify no improvement.

(c) No change is favorable or unfavorable according to what it represents.

3. *During a Period of Prosperity.*

(a) Improved crop conditions tend to lengthen the period of prosperity; but bumper crops often precede a decline.

(b) Poor crop conditions tend to shorten said period, and signify no improvement.

(c) No change is favorable or unfavorable according to what it represents.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) Improved crop conditions sometimes tend to forestall a panic and promote an improvement.

(b) Poor crop conditions tend to hasten said time and perhaps cause a panic.

(c) No change is or is not of importance according to what it represents.

RAILROAD EARNINGS

Railroad earnings are of interest for two reasons: *first*, in forecasting the conditions of the railroads, upon which the prices of securities are directly dependent; *second*, in determining and forecasting the condition of general business.

Although stocks of roads barely earning their operating expenses and interest charges are of some nominal value simply on account of their voting power (and this value is generally considered in the vicinity of about $10 per share, par value $100) yet railroad stocks as a rule are worth very little unless the roads are earning money. But whether or not a stock pays a dividend, it is self-evident that the prices must vary as the earning power. Increased earnings forecast increased values for the securities, and reduced earnings forecast lower values. Manipulation may temporarily force stocks far above or far below their true investment value, but neither high prices nor low prices can artificially be maintained for long. In the end the prices must adjust themselves according to earnings. As most investments are either directly or indirectly dependent upon railroads, railroad earnings are of great importance to the investor.

For the purpose of forecasting general business

conditions, railroad earnings are also of interest. As statistics they are so important for this purpose that many merchants consider railroad earnings second only to bank clearings in making up a barometer of actual business conditions. There are several reasons for this choice, of which the two following are especially well founded:

(1). Because nearly all bills are paid in checks, bank clearings serve as a barometer of the total amount of sales; but railroad earnings likewise serve as a similar barometer, because practically all goods purchased or sold are shipped on the railroads. If the freight earnings of the United States show an increase, it is very evident that manufacturing and commerce is increasing; and the same is true conversely, if the freight earnings are decreasing. Therefore the earnings of the railroads may be considered in the same manner as the clearings of the banks, especially when "tonnage," rather than cash receipts is considered.

(2). Another important reason is that not only are railroad conditions a barometer of trade conditions, but to a large extent they are the *basis* of general trade conditions. This is due to the fact that the railroads employ so large a proportion of the working class population of the United States, and that so many industries are absolutely dependent on the railroads for their business. The railroads are the best purchasers of contractors' supplies and contract labor; of iron and steel for rails and bridges; of lumber for ties and stations; of coal for motive power and heating; of oil for

lighting and lubricating; of printers' supplies for time-tables, tickets, etc., etc. In fact this list might be indefinitely extended to show that the prosperity of the country is inseparably connected with the prosperity of the railroads.

Therefore, for the above two reasons, the wise investor and merchant very carefully watches railroad earnings, both for determining the present conditions and for forecasting future conditions. In this connection the history of railroad earnings during the past three depressions may be of interest. During the reaction of 1873 the high level of gross earnings was reached in the same calendar year as the panic itself, but the recession from this high point was fairly evenly spread over the next four years. The recovery, on the contrary, was strikingly rapid. In 1879, only two years after gross earnings had been at their worst, they had nearly regained their former high level, and this was steadily raised.

By reducing "maintenance charges," the net earnings increased for a year after the reaction began, the gain between 1873 and 1874 having been more than three per cent. Thereafter net earnings declined along with the gross, to their low level in 1877. In the following two years they recovered even more rapidly than gross earnings, making up most of their lost ground in one year. The reaction between the top and bottom levels in net earnings was practically 10%, but between the years in which the gross receipts sank from top to bottom levels, the difference in net was considerably

less. Moreover this decrease was accompanied by an increase in mileage of nearly 12%.

While the panic of 1873 severely checked railroad construction, it by no means checked such development altogether. This crisis followed one of the most pronounced waves of railroad construction ever witnessed. In two years (1870–72) preceding the panic, operated mileage increased by about 13,250 miles, or 25%, which of course is always a distinct danger signal.

The depression of 1884–5 differed from other depressions in the relation of operating expenses to volume of business. In 1894, the percentage decline in net earnings was a trifle less than that of gross; but in the '80's the lessening volume of traffic was not accompanied by a proportionate reduction in earnings. The comparison of top and bottom levels in this depression follows:

	Mileage	Gross	Net
1883	106,938	$807,112,780	$291,587,588
1885	123,320	772,568,883	269,493,931
Decrease	*16,382	34,543,897	22,093,657
Per cent.	*15.3	4.2	7.5

*Increase.

"In so serious a crisis as that of the '90's, the maximum reaction in railroad earnings was not more than 12%. However, aggregate figures covering so many railroads of such wide diversity of location and condition, tend to obscure the facts as they apply to individual undertaking. Constant addition of new mileage tends to reduce the record of damage sustained by the old roads. The reduction of the figure to a mileage basis would still be

an inaccurate test, because the earning power of new and additional mileage is naturally low. Furthermore, construction of new roads frequently takes away business from those roads already in existence, and thus tends to lower the average earnings per mile without any actual decrease in the amount of business. A comparison between fat and lean years could best be made by using figures for identical mileage."

Aggregate railroad earnings reached a new high level in 1893 and again acted as a distinct danger signal, for the crisis itself took place in the second half of that calendar year. The reaction in general business came the next year, when both gross and net immediately reached the low level of that movement. The recovery, though slow, was fairly continuous throughout five or six succeeding years. The extent of the reaction from the top level of 1893 to the bottom level of 1894 is shown in the following figures:

	Mileage	Gross	Net
1893	175,442	$1,207,106,626	$358,648,918
1894	178,054	1,066,943,358	317,757,399
Decrease	*2,613	140,163,268	40,891,519
Per cent.	*1.5	11.6	11.4
1907	224,382	2,602,757,503	833,339,600
1908	230,085	2,407,019,810	717,802,167

*Increase

The next high point was reached in 1907, when the aggregate mileage increased to 228,128, the aggregate gross to $2,602,757,503 and the aggregate net to $833,339,600. This gross and net fell off simultaneously with the decrease in business,

an aggregate total of about 8%, the low point having been reached in the latter part of the summer of 1908. After that time there was a gradual improvement up to 1911, when net earnings were reduced about 2%.

It therefore is advisable for merchants and investors to select about ten large roads, operating in different parts of the country and systematically tabulate their gross earnings as published each month. As the final figures for all roads are published, they also are interesting to note; but for practical purposes it is much better to tabulate the earnings of the same ten roads.

The following conclusions are suggested relative to "Railroad Earnings."*

1. *During a Period of Depression.*

(a) An increase signifies that conditions are improving.

(b) A decrease signifies no improvement.

(c) No change usually signifies uncertainty.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies that the improvement in conditions is progressing satisfactorily.

(b) A decrease signifies no improvement, or that the improvement is temporarily checked.

(c) No change signifies nothing definite.

3. *During a Period of Prosperity.*

(a) A great increase usually signifies no further improvement.

*The tabulation of Railroad Earnings is of great value to the merchant; but the investor must remember that the stock market declines *before* earnings decline, and that prices begin to increase several months *before* earnings show any increase.

(b) A decrease during a period of prosperity is practically impossible.

(c) No change calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies no immediate improvement can be expected.

(b) A decrease signifies that conditions are rapidly becoming worse.

(c) No change signifies nothing definite.

IDLE CAR FIGURES

Idle car figures have been available only for a comparatively short time and investors and merchants have as yet given but little attention to this subject. They are, however, of even more direct interest in forecasting business conditions, than are figures on "Railroad Earnings." In fact, idle car figures bear the same relation to railroad earnings as Government crop estimates bear to the final figures compiled after the crop has been gathered.

These idle car figures are collected by the American Railway Association which receives every two weeks from the officials of each railroad, the number of their surplus cars or the number of the cars they are short, as the case may be. Of course no one railroad will report at any given time both a surplus and a shortage; but it is very natural for certain roads in certain localities to have a surplus; while other roads in an entirely different locality may report a shortage. All of these "surpluses" and "short-

ages" are combined and reported in a total by the Association once in two weeks.

As in the case of exports and imports, it is the balance, namely, the "net surplus" or "net shortage" that the investor or merchant watches with interest. It takes about six weeks for a car to be taken from a siding, looked over, loaded, delivered and unloaded, and furnish its revenue. Then as the railroads do not publish the earnings of a car for about a month or more after received, it may be three months after a car is taken from the siding before the earnings of that car appear in the monthly statement. Conversely, it is also true that when a car is returned to the siding, the effect of taking it out of service will not show in the published earnings for several months thereafter.

Therefore, by tabulating idle car figures the investor and the merchant are able to forecast the publication of an increase or a decrease in railroad earnings almost three months before its appearance. As railroad earnings are such an excellent barometer of trade conditions, so idle car figures serve as even a more valuable barometer, the only unsatisfactory feature being that they do not include the cars in the repair shops.

Note:—The American Railway Association divides its report into eleven divisions with a minimum of 153 roads located as follows:

	No. of Roads
New England	7
N. Y., N. J., Del., Md., & E. Pa.	23
Ohio, Ind., Mich., & W. Pa.	25

	No. of Roads
Va., W. Va., No. Car., & So. Car	9
Ky., Tenn., Miss., Ala., Ga., & Fla.	17
Iowa, Ill., Wis., Minn., the Dakotas	22
Mont., Wyo., & Neb.	2
Kans., Colo., Okla., Mo., & Ark.	16
Texas, Louisiana, and New Mexico	9
Ore., Idaho, Cal., Nev., & Ariz.	19
Canadian Lines	4
Total	153

The following conclusions are suggested relative to "Idle Car Figures."*

1. *During a Period of Business Depression.*

(a) An increase of idle cars signifies no improvement.

(b) A decrease signifies that a change for the better may be expected.

(c) No change signifies that caution is still necessary.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in idle cars signifies no improvement.

(b) A decrease signifies improvement.

(c) No change signifies that caution is still necessary.

3. *During a Period of Prosperity.*

(a) An increase in idle cars calls for caution.

*Idle car figures are of great value to both merchant and investor as they *forecast* earnings. When the actual earnings are published it is often too late for the investor to profit thereby, as their effect has already been discounted. This, however, does not apply to idle car figures.

(b) A decrease signifies continued improvement.

(c) No change signifies nothing unsatisfactory.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase calls for caution.

(b) A decrease signifies improvement.

(c) No change signifies no improvement.

POLITICAL FACTORS

Some of the most successful merchants of the old school maintained that the three greatest factors which influence business conditions are crops, money and politics, and that of these the most important is the last named, politics. Certainly this statement appears reasonable to some, but it is probable that political as well as social changes are largely governed and influenced by other fundamental business conditions. For instance, at a time of great expansion of business when commodity prices are rising, the common people gradually get disgruntled and wish a change in administration. On the other hand, at a time of depression the political party in power is likely to suffer from the liquidation in wages and customary hard times. In fact, once in every little while the populace assumes control, institutes a few improvements, but soon becomes divided by contentions, and again capital and the conservatives are given the reins. Nevertheless a study of politics as reflecting the

underlying conditions of the country is quite necessary. That portion of American history with which these pages are most concerned, from 1860 up to the present time, is most admirably described by Alex. Dana Noyes in his "Forty Years of American Finance."

There has always been a most delicate relation between politics and the state of trade. Almost every period of depression and period of prosperity, although not wholly due to political conditions, has been greatly augmented by them. Among those various political factors may be mentioned the following: —

The "Embargo Act" in the early part of the century and the war of 1812.

The establishment of the United States Bank.

The discontinuance of the United States Bank.

The beginning of "state rights" discussions.

The slavery discussion and the Civil War.

The "Reconstruction Acts."

The inflation of the currency.

The "Resumption Act."

The silver coinage law.

The resumption of specie movements.

The circulation of silver certificates.

The radical measures under President Arthur, followed by the panic of 1884.

The campaign and the election of the Republican Party in 1888, coincident with the period of prosperity.

The silver purchase act and the great gold exportations followed by the panic of 1893.

The tariff legislation of the '90s followed by the prosperous conditions of 1900.

The various Bryan scares.

President Roosevelt's campaigns against the trusts.

Continuation of campaigns against trusts under President Taft's administration.

The organization of a national Progressive Party, and the victory of the Democratic Party in 1912.

Of all these various acts, by far the most influential were those affecting the currency and the tariff. Both of these are extremely sensitive questions.

Any change in the money standard or banking system, especially if it disturbs either foreign or domestic confidence, is very destructive to the commercial prosperity of the country. Even when banking questions or the money standard are discussed in Congress, there seems to be an immediate division of interests between the producer or the manufacturer and the banker or the investor. The legislation desired by the producer seems to be opposed by the investor and vice versa. The reason for this is very evident, for anything which tends to make money easier to the producer, depreciates the value of money in the hands of the bankers and investors who possess it. On the other hand, legislation which strengthens the importance of the banker and investor, tends to handicap the producer and manufacturer.

Any legislation designed to reorganize the banking system of the United States on anything but a gold basis, like that upon which the banking systems

of England and other countries are founded, always retards trade. Any legislation which gives any additional importance to gold is always greeted with approval by all classes of manufacturers, merchants and investors. All other legislation, especially that recognizing as a standard, silver or anything other than gold, is always a dangerous sign, often causing bankers and investors to call loans and raise rates. Such conditions usually precede a general crisis.

As to the propriety of high or low duties on foreign goods, this is an open question. Although nearly all bankers are in favor of protection, yet most economists (on whose advice the bankers depend regarding many matters) are almost without exception against heavy protection; but whether high tariff for protection or low tariff for revenue only is best for the country, the fact remains that whenever the subject is discussed and whenever there is to be a change in classifications or duties, this discussion and legislation has always affected business conditions. Moreover, although the adoption of certain tariff legislation has given a great impetus to prosperity, yet the previous discussion of the subject has always tended to disturb confidence, promote a feeling of uncertainty and seriously check business.

This is very well described by Henry Hall as follows: —

"In the United States the business world has become accustomed to the protective principle and even the prospect of reduced duties has always

chilled the spirit of enterprise, while the reality has always given a setback to business, sooner or later. On the other hand, enactment of protective tariff, in lieu of one for revenue only, has always proved exciting and has quickened into intense activity the looms, forges and machinery of the entire country.

"The backward state of American industry prior to the Civil War is held to have been due in large measure to the relaxation of protection under the tariff laws of 1842 and 1857. There can be no question that the twenty or more tariff enactments from 1861, when the Morrill protective tariff went into operation, to 1872 when the system had been fairly adjusted to the requirements of home industry, aided materially in developing the mines, sustaining the factories against foreign competition, supplying the railroads with an immense and profitable traffic, and promoting the farming interest of every section of the States."

The lower duties of 1883 on many manufactures, added to the force of other evil influences, ended in the crisis of 1884. The crisis of 1893 rose in a distinct measure from the agitation in the then Democratic Congress for a tariff for revenue only, which eventuated in the Wilson bill. The prosperity which the States subsequently enjoyed must be attributed in a marked degree to the protective tariff enacted under President McKinley.

All writers on crises agree in giving great weight to tariff changes. An investor should therefore at all times be fully informed with regard to such

actual or possible revolutions in political control at Washington as are likely to have a bearing on the tariff laws. As a further illustration of this subject the setback given business during the tariff discussion of May to July, 1909, and the renewed business energy which followed upon the passing of the bill is of suggestive interest.

Therefore successful bankers, merchants and investors always carefully watch political conditions and if possible reduce them to a decimal or barometer index number.

The following conclusions are suggested relative to "Political Uncertainties:"*

1. *During a Period of Business Depression.*

(a) An increase in political agitation usually signifies no improvement.

(b) A decrease usually signifies an improvement.

(c) No change is unfavorable or favorable according to whether or not any important measure is under consideration.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in political agitation usually signifies no improvement.

(b) A decrease usually signifies an improvement.

(c) No change is unfavorable or favorable

*This assumes all political factors to be unfavorable and the best conditions to be when only routine business is being considered. However, there are times when certain political acts are distinctly favorable, and then the reverse of these conclusions should apply.

according to whether or not any important measure is under consideration.

3. *During a Period of Prosperity.*

(a) An increase in political agitation forecasts a decline.

(b) A decrease often signifies continued improvement.

(c) No change is unfavorable or favorable according to whether or not any important measure is under consideration.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) Same as above.

(b) Same as above.

(c) Same as above.

Of course, if some legislation is under discussion the enactment of which would greatly relieve the situation, then an "increase" would be distinctly favorable, and a decrease distinctly unfavorable.

SOCIAL CONDITIONS AND MISCELLANEOUS STATISTICS

The condition of public opinion in the country as a whole, and the stand taken by any large number of people, or a representative body of people, with regard to social or religious questions, exerts a constant influence upon business conditions. Not only in politics and the larger field of government as shown in election or municipal reforms, but in all religious or social movements, the feeling of the people should be watched closely. Most in-

vestors and merchants look upon crops, money and politics as the three most important topics to study in order to form a clear idea of the present state of business and a sound judgment of what is to be expected. They would also do well to look into the field of social and religious tendencies, because they will find there material of great use in determining the trend of business.

From time immemorial, periods of prosperity have been accompanied by a decline in religious interests and by a laxness in moral and social customs. Conditions, religiously, socially and morally, are always at their worst immediately preceding a severe crisis or panic. The perils to a nation during a period of prosperity are much greater than the perils accompanying a period of depression. For this reason the social and commercial corruption which has followed the declaration of peace after great wars has always been more disastrous to the conquering country than the actual war. This has been true during all history.

It was commercial and political corruption, rather than the Northern barbarians, that destroyed ancient Rome and that ruined beautiful Venice. It was commercial and social corruption that transformed Spain from the foremost empire of the world to a third rate power, and overturned the Bourbon empire in France. England itself would have come to a similar fate had it not been for the revival of righteousness which drove the corrupt men from power at the time of the East Indian

troubles and at other periods of her history. The American Civil War was followed by great financial and social corruption, and even General Grant, although himself incorruptible, could not save his country from the effect of greed and wrongdoing.

The famous election which followed was noted for the frauds which characterized both parties, and these frauds were so gigantic that to this day it is uncertain whether Tilden or Hayes was actually elected President of the United States. As is the case during all such periods of personal, commercial and civic corruption, this period was followed by the great business depression beginning about 1873.

Immediately following this depression a period of religious and civic revivals swept over the nation. The additions to churches, the great temperance movement, and other similar movements for righteousness received an unprecedented impetus during these years following the panic of 1873. This return to righteousness was again followed by a return of prosperity in the early '80's.

The nation, however, soon forgot whence these blessings came and religious interest again declined. This lack of interest in religious matters culminated in the panic of 1884. Once more the reign of ungodliness was checked and the country recuperated from the depression of 1884, and again enjoyed several years of wonderful prosperity. It, however, took the nation only a few years to forget again, and once more civic corruption, social immorality and intemperance began to increase. From 1890 to 1893 religious and similar organizations showed

very little growth. Consequently the era of prosperity began to wane, and culminated in the panic of 1893.

The panic of 1893 again brought people to think upon serious matters, and during the following few years there was a great revival of righteousness throughout America. In fact, the additions to churches and the growth of other religious movements even exceeded that, during the period following the panic of 1873. The people again cast aside luxuries, municipal and state governments were purified, evil doers were replaced by men of high integrity, and great interest in all religious and moral undertakings developed in all parts of the country.

People again lived in a decent and God-fearing manner in accordance with what their station permitted. Commercial houses forsook the careless and questionable methods used during former times and the old-fashioned "drummer" was replaced by the modern high grade salesman. It was on this foundation that the new period of improvement started and it was due to this revival of righteousness, that the country was able to enjoy many years of great prosperity which began simultaneously with the close of the Spanish War in 1898 and 1899.

Unfortunately, however, the nation again forgot and was still unable to stand the temptations of a period of prosperity. Therefore again religious interest declined, political corruption re-opened and social immorality increased. Referring to

these conditions Dr. Lyman Abbott once stated as follows:

"Popular rumor attributed to Mr. McKinley's managers, although not to him, wholesale corruption in securing his first nomination and his first election. This corruption has not been confined to any one locality or to any one party. It has been equally appalling in its dimensions in New York, Boston, Philadelphia, Cincinnati, Chicago, St. Louis, Minneapolis, Denver, and San Francisco. It has included not only Boards of Aldermen but Legislatures, and it has crept into both the administrative and legislative departments of the Federal Government. Two United States Senators and three United States Representatives have subjected themselves to criminal prosecution for participation in frauds. Nor has this corruption been confined to political circles. Insurance companies, banks, trust companies, manufacturers, trade unions have all been implicated. More than one financial magnate is now serving a sentence for fraud. Others are under sentence and are awaiting the decision on appeal. Even judges have not been wholly free from suspicion of obligation for their election to the plutocracy."

This is a description of the conditions from 1902 to 1906, when the exposures commenced. Like all preceding periods of unrighteousness, this was followed by the panic of 1907, and the succeeding years of depression.

Of course some writers, although admitting that a business depression revives interest in religious

matters and that, during great prosperity, men do not have the time or inclination to give religious matters any thought, claim that the religious state of the nation does not affect the business conditions as here represented. Whether or not this is true, is debatable; but certainly a study of the history of the United States *and every other nation*, seems to point to a definite relation between the two interests. Moreover, all economists agree that the religious condition of the country is distinctly worthy of study, — although they may disagree as to its relative importance compared with other subjects.

Thus President Taft said: "The hum of prosperity and the ecstasy of great profits are likely to dull our interest in these reforms and to lead us back again to the old abuses, unless we insist upon legislation which shall clinch and enforce those standards by positive law."

And again: "The difficulty is that whenever everybody is prosperous, when everybody is comfortable, then is the time when our old friend Satan steps in and helps along the evil cause; then is the time when we are apt to be inert and enjoy the things we have, without looking forward in the future and seeing that evils will grow and ultimately swamp us."

Or to quote another authority:

"Beware lest . . . thou say in thine heart, 'My power and the might of mine hand hath gotten me this wealth. But thou shalt remember the Lord thy God, for it is He that giveth thee power to get wealth.' " Deut. 8: 11, 17, 18.

STATISTICS SHOWING INCREASE IN THE MEMBERSHIP OF CONGREGATIONAL CHURCHES IN THE UNITED STATES BY PROFESSION

(This denomination is chosen as an illustration owing to its complete reports; but it is believed that the same changes from one year to another would be true of an average of the figures of all denominations.)

Year to July	No. of Churches	Add. Members by Profession	Total New Members		Additions by Profession per 100,000 Population
1860	2,585	7,468	14,821	Decline	24 Persons
1861	2,555	5,522	12,151	Depression	17 "
1862	2,580	6,196	12,629	"	19 "
1863	2,652	7,765	14,378	Prosperity	23 "
1864	2,667	9,032	15,809	Decline	27 "
1865	2,723	11,030	18,442	Depression	32 "
1866	2,780	11,249	19,994	Improvement	32 "
1867	2,810	19,127	30,210	"	53 "
1868	2,951	16,432	28,246	Prosperity	45 "
1869	3,043	15,167	27,373	"	40 "
1870	3,121	13,501	25,137	Decline	35 "
1871	3,202	13,271	23,343	"	34 "
1872	3,263	13,945	25,394	"	34 "
1873	3,325	13,216	24,620	"	32 "
1874	3,403	15,279	27,300	Depression	36 "
1875	3,437	17,306	29,645	"	39 "
1876	3,509	20,844	33,294	"	46 "
1877	3,564	24,138	35,111	"	52 "
1878	3,620	20,498	31,735	Improvement	43 "
1879	3,674	16,689	27,506	"	34 "
1880	3,745	12,230	22,749	Prosperity	24 "
1881	3,855	11,311	22,646	"	22 "
1882	3,936	13,539	25,895	Decline	26 "
1883	4,010	14,800	28,377	Depression	28 "
1884	4,092	17,923	32,055	"	33 "
1885	4,170	21,729	37,135	"	39 "
1886	4,477	27,166	43,185	Improvement	47 "
1887	4,404	41,156	67,530	"	70 "
1888	4,569	25,994	45,036	Prosperity	43 "
1889	4,689	29,286	49,859	"	48 "
1890	4,817	27,592	47,782	"	44 "
1891	4,985	30,614	52,086	Decline	48 "
1892	5,140	31,582	54,576	"	49 "
1893	5,236	34,444	57,561	Depression	52 "
1894	5,346	38,853	62,946	"	58 "
1895	5,486	35,327	57,932	"	51 "

Year to July	No. of Churches	Add. Members by Profession	Total New Members		Additions by Profession 100,000 Population
1896	5,546	32,147	54,640	Improvement...	46 Persons
1897	5,614	31,090	52,211	" ...	44 "
1898	5,620	25,189	44,492	Prosperity.....	35 "
1899	5,604	24,514	44,185	"	33 "
1900	5,650	27,101	48,602	"	36 "
1901	5,753	28,398	49,879	"	37 "
1902	5,821	29,195	51,627	Decline.....	38 "
1903	5,900	29,403	51,521	Depression.....	36 "
1904	5,919	30,193	53,198	Improvement...	37 "
1905	5,931	34,881	57,722	Prosperity.....	42 "
1906	5,923	32,890	56,543	"	38 "
1907	5,989	34,642	59,346	Decline.....	40 "
1908	6,006	35,100	59,792	Depression.....	40 "
1909	5,991	34,245	62,461	"	38 "
1910	6,033	30,582	57,689	Prosperity.....	33 "
1911	6,048	30,319	57,667	Depression.....	32 "
1912	e6,080	e32,000	e59,000	Transition	34 "

e. Estimated.

The following conclusions are suggested relative to "Social Conditions:"

1. *During a Period of Business Depression.*

(a) An increase in social righteousness signifies an improvement.

(b) A decrease in social righteousness signifies no improvement and that conditions may become worse.

(c) No change signifies uncertainty.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in social righteousness signifies continued improvement.

(b) A decrease signifies no improvement or that the improvement may temporarily be checked.

(c) No change signifies that caution should be used.

3. *During a Period of Prosperity.*

(a) An increase in social righteousness signifies continued improvement.

(b) A decrease signifies no further improvement, but that a change for the worse may be expected.

(c) No change calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase tends to shorten the period of decline and signifies an improvement.

(b) A decrease signifies no improvement and tends to make the coming period of depression all the more severe.

(c) No change signifies the same.

MISCELLANEOUS STATISTICS

Among those miscellaneous statistics which are tabulated by some bankers and merchants may be mentioned the following: —

Statistics on Losses and Wastes.
Statistics on Changed Conditions.
Absorption of Capital.
Results of Invention.
Economies due to Improved Methods.
Statistics on Frauds and Lack of Credit.
The Abuse of Credit.
The Contraction of Circulating Mediums.
Overproduction.

Psychological Tendencies.
Military Armament.
Income Taxes.
Excise and Internal Revenues.
Associated Charity Reports.
Velocity of Circulation of Money.

All of the above have some distant bearing either for diagnosing present conditions or for forecasting future conditions; but none are sufficient in themselves, and when studying any one, due weight must be given to all of the others. The figures on any one of these subjects are of value only in their relation to the other figures which we have previously considered. *As however none of these miscellaneous subjects are of sufficient importance to the merchant or investor for him to collect and tabulate figures no immediate thought need be given to them.*

CHAPTER IX

A TALK ON COPPERS

(For later figures than given in this chapter, see the Addenda.)

AS seen in preceding chapters, the laws of trade and finance necessitate a fluctuation in the price of all staple commodities. The *tendency* of the price of many commodities is upward. This is owing to several causes, among which may be mentioned the increased supply of gold, the increased price of labor and the increased consuming power of the people. There is a constant increase in demand which the increase in supply does not fully equal. When, however, this course of prices is represented *graphically*, it will be found that the lines are not straight, but "zig-zag." Although each low point may not be as low as the preceding low points and the general tendency may be upward, yet there is a continual fluctuation. A careful study will further show that these abrupt changes occur at intervals of every few years and are certain to come, although with no set regularity.

Many reasons to prove this latter statement may be offered, but we will confine ourselves to one. If any one commodity continued always to increase in price, without the fluctuation above mentioned, the tendency would be for every one to enter the business of manufacturing, selling or investing in that one commodity.

Of course there is a great difference in the fluc-

tuations of different commodities as some commodities fluctuate in price much more than others; and it is more difficult to understand the laws affecting the fluctuation in the prices of some commodities than of others. It is possible, however, to see the general trend of all prices taken as a group. As the country passes from periods of prosperity to periods of depression and *vice versa*, the general average price of commodities fluctuates as well as the average price of stocks.

Therefore it is very important to the investor to anticipate changes in business conditions by obtaining and studying the necessary statistics. Like the farmer, the investor must be first willing to purchase and plant the seed before expecting to reap a harvest. The majority of investors have not enough patience to spend money in obtaining data and wait for results which are not immediate. There are also a great many people who, although believing that prices must be lower in a year or so, have not sufficient self-control to wait a year before investing a given amount of money. Money "burns in their pockets," and, as soon as they accumulate a certain amount, they seem determined to invest it, even though they know that by depositing it in a bank and waiting they can purchase the same stocks for one-third of the price later on. The same class of people are also the ones who have not sufficient self-control and energy necessary to sell their securities in times of great prosperity.

To those, however, who are willing to spend

money in accumulating the necessary data and who have the self-control to act in accordance with their better judgment, the opportunities to make money are unlimited. Such persons can, moreover, confine themselves to absolute and outright cash purchases and invest in only the most conservative stocks, based on standard commodities. We cannot here study the application of the above theory to all classes of commodities and all classes of stocks. Therefore, as an illustration, only one application will here be considered; namely, that of purchasing and selling high grade standard dividend paying copper stocks in accordance with the market price of copper.

Instead of endeavoring to explain the details of the system as used in purchasing steel stocks, cotton mill stocks, and other securities, the point of this chapter is to show how it works with one single commodity such as copper. There are two main requirements: — *first*, that one must keep in constant touch with business conditions; and *second*, that one must always keep informed of the best mines, realizing that the relative conditions of mines change from one year to another.

It is impossible for a broker to give a rule such as that copper stocks should be sold when the price of metal is above 24 cents and bought when the price of metal is below 14 cents; for one year 24 cents may be high and another year it may not be high. Moreover, the safest stocks to-day may not be those in which it was best to invest a few years ago. It therefore is necessary to obtain data

on these points from some reliable agency operated for the purpose. The press cannot be relied upon for this information, for reasons that can be readily understood. It is impossible for the press always to state the facts, *especially when the outlook is unfavorable.*

One can best obtain an idea as to whether the present price of copper is low or high from a study of fundamental statistics. Tables showing the high and low prices of the metal, over a long period of years, should, of course, also be studied; but these figures are not nearly so important as figures on "Clearings," "Failures," "Foreign Trade," etc., by which the movement in the price of metal may be forecasted. *The price of the metal bears the same relation to the price of copper stocks as railroad earnings bear to the price of railroad stocks. After the price of the metal publicly changes, it is too late to trade in the stock. In order to successfully trade in the stock, one must, therefore, forecast changes in the price of the metal. This can be done only by a study of fundamental statistics relating to general business conditions.*

The next difficulty comes in selecting a list of mines in which to invest. The following table gives a list of thirteen copper companies and their present dividend rate. The table shows also what the companies would theoretically earn with copper at 18 cents a pound and under. These figures are not exact, as they are based on the assumption that the cost per pound will be constant, whatever the output, when in reality the smaller the output, the

greater the cost per pound.* These figures therefore may be taken as maximum figures throughout.

	Present Div. Rate	18c	17c	16c	15c	14c
Cal. & Hec	$48	$71.25	$63.75	$56.25	$48.75	$41.25
Wolverine	10	17.10	15.50	13.86	12.22	10.61
Osceola	12	18.20	16.05	14.00	11.97	9.87
Quincy	6	16.50	14.40	13.30	10.20	8.20
Mohawk	6	10.41	9.10	7.80	6.50	5.20
Cal. & Ariz.	5	10.45	9.55	8.60	7.64	6.68
Granby	0	12.09	10.46	8.85	7.24	5.63
Old Dominion	5	9.18	8.19	7.17	6.15	5.12
Cop. Range	3	7.80	6.95	6.10	5.25	4.42
Utah Copper	3	8.31	7.51	6.72	5.92	5.15
Ray	0	5.22	4.68	4.12	3.57	3.03
Lake	0	2.80	2.45	2.10	1.75	1.40
Chino	0	7.49	6.77	6.05	5.32	4.62

Such tables are compiled by taking the present output of the mine and its net cost per pound† of the ore mined. The investor then deducts this cost per pound from the selling price given in the table, ascertains the profit per pound, multiplies the profit per pound by the output, and divides by the number of shares outstanding.

There is another factor which enters; namely, that as the price declines, the production decreases. Therefore with a price of 14 cents probably only three-fifths as much copper is mined as at a price of 24 cents, and therefore the figures on the above table should be correspondingly cut down. From the cards of the Official Information Bureau, the output of each mine can be obtained without difficulty, and one can at any time ascertain the relation

*This is not absolutely true as the price of labor generally decreases as the output decreases.

†Consider the present cost, for instance, to Chino 7½ cents; to Lake 10 cents; to Copper Range 8¾ cents; to Osceola 9¼ cents.

of the actual output to the maximum output and reduce the figures in the preceding table accordingly.

In a broad way, the high-cost producing mine suffers relatively the most by a decline in the metal market, although of course, in the matter of a loss in share earnings, the capitalization must also be taken into account. For instance, take two imaginary cases. Company No. 1 and Company No. 2 both have the same share par value. The former has 250,000 shares and makes its copper for 8 cents per pound. The latter has only 50,000 shares and makes its copper for 12 cents per pound. We will assume that copper falls from 18 cents to 13 cents and that the production is the same for both companies, namely 10,000,000 lbs. With the price of the metal at 13 cents instead of 18 cents, the profits of the first company would be cut in half, or from $4.00 per share to $2.00 while the profits per share of the second company would be only one-sixth what they would be at 18 cents and would drop from $12.00 to $2.00. If, however, the second company had the same capitalization as the first, namely 250,000 shares, then the drop would be from $2.40 per share with copper at 18 cents to 40 cents per share with copper at 13 cents. A fluctuation of 1 cent in the price of copper means a difference of 40 cents per share in the profits of No. 1 and a difference of $2.00 per share to No. 2.

Figuring in this manner, a one-cent drop in copper shrinks the profits of Granby about $1.61 per share, Copper Range about $0.84, and Quincy approximately $2.00. Of course after reaching

this point it is possible to go a step further by ascertaining the per cent. earned on the selling price, as well as the per cent. earned on the par value which is ascertained by the above method.

Such reasoning results in the following rules for practical investing:

1. Make a list of the standard dividend paying stocks of companies which issue complete reports.
2. Star on this list the names of such companies as are doing a sufficient amount of development work, and which have ore blocked out for a long period of years.
3. Select the stock from among those which are starred which, *with copper at a low price*, will show the greatest per cent. earned on the selling price of the stock.

The result of such analysis clearly shows which is the best single stock to purchase. If there are four or five which figure approximately the same, it is best for an investor to divide his money among them all.

It should be remembered that when ascertaining the cost of production, three factors must be considered: —

1. The pounds of copper per ton of rock crushed.
2. The cost of supplies, labor, etc., including taxes and all fixed charges.
3. The money spent on development, machinery, etc.

The first factor is the most important for *comparison purposes*, and tables following give a list of the leading mines with the *average tons of rock*

stamped daily, the pounds of copper per ton of rock and the percentage of copper.

The second factor is more or less constant with each mine; but the third factor is very different with different mines. This third factor is important, but it is difficult to obtain satisfactory information excepting for the more conservative properties.

After obtaining this data, the secret of successful investing depends simply upon purchasing these stocks when fundamental statistics show general business to be in a *period of depression* and keeping these stocks for a few years, until such time as such statistics show the country to be in a period of great prosperity when the stocks should be sold, although at this time probably the majority of investors are just beginning to purchase stocks. When the stocks have been sold, the money should be deposited in some safe bank or invested on high grade short term bonds, until the price of the metal falls and the country experiences another period of depression. These same or other standard stocks are then again purchased, and in a few years the investor again sells at a huge profit. There is little risk in such a method if only the most conservative stocks are bought, and there is no reason why any man cannot turn an original investment of about $5,000 into $200,000 within about twenty years, provided he is willing to spend a reasonable amount of time or money each year on collecting and tabulating fundamental statistics.

The theory advanced in this chapter is based on the

two assumptions that the mines will not become exhausted, and that no unforeseen event will make the working of these mines unprofitable. We refer to the physical arrangement of the mines, to the discovery of much richer and greater mines in other countries, and to the development of some other substance which will supersede copper in the industrial world.

Neither of these assumptions need be considered when investing in conservative railroad stocks, as railroads will always be of value both for their tangible assets and for their earning capacity. Therefore, for an investment, the author personally believes that "railroads" are much preferable to "coppers." Still the latter are often very profitable for speculative purposes; and many, unlike the author, prefer such copper stocks to railroad stocks, owing to their freedom from the effects of undesirable legislation and certain other unfavorable factors.

The author wishes to emphasize, however, the importance of purchasing a large number of stocks rather than to invest in stocks of one or two companies, and this especially applies to mines for the reasons above stated. It is best not to try to compare any one copper stock with another except in a broad way. The man who takes the position that he knows nothing definitely about any of them, and purchases a sufficient number of stocks to be interested in the industry as a whole is the one who is in the strongest position. *If one purchases enough different copper stocks so as to have an interest in the*

companies which control about two-thirds of the output, and buys these stocks when the average copper stock market is at a low level, he should receive a handsome profit on the investment when the industry revives. Whatever may happen to *one individual stock*, the *average* profit should be very substantial. One, however, should not buy "prospects" which are little known, but should select a group of coppers which are paying dividends, or about to pay dividends.

TABLES

AVERAGE POUNDS OF COPPER PER TON UNDER AVERAGE NORMAL CONDITIONS

	Tons rock stpd.	Lbs. copper per ton of rock	% copper in rock
Calumet & Hecla	2,909,972	25.47	1.27
Wolverine	388,476	24.75	1.23
Ahmeek	598,549	25.40	1.27
Copper Range	1,779,072	20.87	1.04
Superior	162,599	19.90	.99
Tamarack	392,338	19.10	.95
Osceola	1,246,596	14.80	.74
Allouez	288,610	16.56	.82
Isle Royale	457,440	16.40	.82
Mohawk	802,548	15.07	.75
Michigan (1909)	148,172	13.36	.67
Centennial	86,543	17.26	.86
Mass	73,475	17.58	.87
Franklin (1910)	113,859	8.49	.42
Victoria	126,894	10.27	.51

TABLE

OF PROFITS FOR THIRTEEN COPPER STOCKS

	Shares outstanding	Estimate of average normal output in lbs.	Lbs. per share	Aver. cost of product per lb.	Profit per lb. on 13c copper	Profit per share on 13c copper
Cal. & Hec..	100,000	75,000,000	750	8½	4½	$33.75
Wolverine...	60,000	9,800,000	163	7½	5½	8.97
Osceola.....	96,150	20,000,000	208	9¼	3¾	7.80
Quincy.....	110,000	22,500,000	204	10	3	6.12
Cal. & Ariz..	628,552	60,000,000	95	7	6	5.70
Old Dominion.	293,245	30,000,000	102	9	4	4.08
Utah Copper.	1,579,600	125,000,000	79	7½	5½	4.34
Copper Range	393,445	33,000,000	84	8¾	4¼	3.57
Mohawk....	100,000	13,000,000	130	10	3	3.90
Granby.....	148,495	24,000,000	161	10½	2½	4.03
Ray.....	1,447,352	80,000,000	55	8½	4½	2.50
Lake.....	100,000	3,500,000	35	10	3	1.05
Chino.....	777,458	55,000,000	71	7½	5½	3.92

TABLE SHOWING RANGE IN PRICE OF LAKE COPPER SINCE 1860

Year	Av.	Highest Price	Month		Lowest Price	Month
1860	22	24.0	(Jan.)	to	19.7	(Dec.)
1861	22	27.0	(Dec.)	to	17.5	(July)
1862	21	32.8	(Nov.)	to	20 7	(May)
1863	33	38.7	(Dec.)	to	29.0	(July)
1864	47	55.0	(July)	to	39.0	(Jan.)
1865	39	50.5	(Jan.)	to	28.0	(July)
1866	34	42.0	(Jan.)	to	26.5	(Nov.)
1867	25	29.2	(Jan.)	to	21.5	(Dec.)
1868	23	24.5	(Dec.)	to	21.5	(Jan.)
1869	24	27.0	(Feb.)	to	21.5	(Dec.)
1870	21	23.3	(Nov.)	to	19.0	(March)
1871	24	27.0	(Dec.)	to	21.2	(April)
1872	35	44.0	(Apr.)	to	27.1	(Jan.)
1873	28	35.0	(Jan.)	to	21.0	(Nov.)
1874	22	25.0	(Jan.)	to	19.0	(Aug.)
1875	22	23.8	(Sept.)	to	21.5	(Jan.)
1876	21	23.2	(Jan.)	to	18.7	(Aug.)
1877	19	20.5	(Feb.)	to	17.5	(Dec)
1878	16	17.6	(Jan.)	to	15.5	(Oct.)
1879	18	21.7	(Nov.)	to	15.5	(Jan.)
1880	21	25.0	(Jan.)	to	17.8	(June)
1881	18	20.3	(Dec.)	to	16.0	(July)
1882	19	20.3	(Jan.)	to	17.8	(April)
1883	16	18.1	(Jan.)	to	14.8	(Nov.)
1884	13	15.0	(Dec.)	to	11.0	(Dec.)
1885	10	11.8	(Feb.)	to	9.8	(May)
1886	11	12.1	(Dec.)	to	10.0	(May)
1887	13	17.7	(Dec.)	to	9.9	(May)
1888	16	17.6	(Nov.)	to	15.8	(Jan.)
1889	13	17.5	(Jan.)	to	11.0	(Sept.)
1890	15	17.2	(July)	to	14.0	(March)
1891	12	15.0	(Jan.)	to	10.2	(Dec.)
1892	11	12.3	(Dec.)	to	10.5	(Feb.)
1893	10	12.5	(Jan.)	to	9.6	(Aug.)
1894	9	10.2	(Jan.)	to	9.0	(June)
1895	10	12.2	(Aug.)	to	9.3	(April)
1896	10	12.0	(June)	to	9.7	(Jan.)
1897	11	12.0	(Jan.)	to	10.7	(Nov.)
1898	12	13.2	(Dec.)	to	11.0	(Jan.)
1899	17	19.3	(Apr.)	to	13.2	(Jan.)
1900	16	17.2	(Apr.)	to	16.0	(Feb.)
1901	16	17.0	(Jan.)	to	13.0	(Dec.)
1902	12	13.5	(Feb.)	to	11.0	(Jan.)

Year	Av.	Highest Price	Month		Lowest Price	Month
1903	13	15.3	(Mch.)	to	12.0	(Dec.)
1904	13	15.3	(Nov.)	to	12.2	(Feb.)
1905	15	18.8	(Dec)	to	15.0	(May)
1906	22	25.0	(Dec.)	to	17.8	(Sept.)
1907	20	26.2	(Mch.)	to	12.5	(Oct.)
1908	13	14.4	(Dec.)	to	12.7	(May)
1909	13	14.3	(Jan.)	to	12.8	(March)
1910	13	13.8	(Jan.)	to	12.5	(July)
1911	12	14.3	(Dec.)	to	12.2	(May)
1912	16	17.8	(Sept.)	to	14.2	(Jan.)

TABLE SHOWING RANGE IN PRICES OF LEADING COPPER STOCKS SINCE 1889

The prices of the leading copper stocks since 1889 have ranged as follows:

1890 AVERAGE 56–87

Osceola ranged from 45 (Sept.) to 32 (Dec.); Quincy 130 (Sept.) to 80 (Nov.).

1891 AVERAGE 55–76

Osceola ranged from 40 (June) to 26 (Nov.); Quincy 85 (Feb.) to 112 (Aug.).

1892 AVERAGE 82–91

Osceola ranged from 24 (Jan.) to 38 (Nov.); Quincy 140 (Dec.) to 145 (Dec.).

1893 AVERAGE 65–89

Osceola ranged from 36 (Jan.) to 25 (Aug.); Quincy 143 (Jan.) to 105 (Aug.).

1894 AVERAGE 50–76

Osceola ranged from 28 (Apr.) to 19 (July); Quincy 125 (Jan.) to 81 (July).

1895 AVERAGE 41–74

Osceola ranged from 42 (July) to 20 (Dec.); Quincy 102 (Mch.) to 170 (July); Wolverine 10 (July) to 3 (Dec.).

1896 AVERAGE 43–58

Osceola ranged from 21 (July) to 32 (Nov.); Quincy 134 (Feb.) to 104 (Aug.); Wolverine 6 (Jan.) to 10 (Nov.).

1897 AVERAGE 47–63

Osceola ranged from 28 (Apr.) to 42 (Sept.); Quincy 129 (Jan.) to 104 (Mch.); Wolverine 9 (Apr.) to 19 (Sept.).

1898 AVERAGE 53–91

Osceola ranged from 38 (Mch.) to 87 (Dec.); Quincy 105 (Mch.) to 150 (Dec.); Wolverine 18 (Mch.) to 38 (Dec.).

1899 AVERAGE 51–87

Mohawk ranged from 38 (Apr.) to 14 (Dec.); Osceola 105 (Feb.) to 61 (Dec.); Quincy 190 (Jan.) to 125 (Dec.); Utah Cons. 53 (Apr.) to 21 (Dec.); Wolverine 50 (Jan.) to 35 (Dec.).

1900 AVERAGE 57–78

Amalgamated ranged from 83 (Jan.) to 100 (Nov.); Mohawk 12 (June) to 28 (Dec.); Osceola 58 (June) to 80 (Nov.); Quincy 132 (July) to 178 (Sept.); Utah Cons. 38 (Apr.) to 22 (June); Wolverine 36 (June) to 49 (Dec.).

1901 AVERAGE 57–99

Amalgamated ranged from 130 (June) to 61 (Dec.); Mohawk 22 (Jan.) to 56 (Sept.); Osceola 120 (Sept.) to 72 (Dec.); Quincy 180 (Apr.) to 125 (Dec.); Utah Cons. 38 (Nov.) to 19 (Dec.); Wolverine 74 (Sept.) to 44 (Dec.).

1902 AVERAGE 47–74

Amalgamated ranged from 79 (Feb.) to 53 (Nov.); Copper Range 44 (Mch.) to 65 (Oct.); Mohawk 27 (Jan.) to 49 (Sept.); Osceola 90 (Feb.) to 48 (Nov.); Quincy 147 (Feb.) to 100 (Nov.); Utah Cons. 27 (Feb.) to 19 (July); Wolverine 42 (Jan.) to 65 (Dec.).

1903 AVERAGE 42–71

Amalgamated ranged from 76 (Mch.) to 34 (Oct.); Copper Range 75 (Feb.) to 37 (July) Granby 53 (Apr.) to 36 (July); Mohawk 58 (Feb.) to 31 (July); Osceola 79 (Feb.) to 44 (July); Quincy 127 (Feb.) to 80 (Oct.); Utah Cons. 22 (Jan.) to 34 (May); Wolverine 75 (Mch.) to 54 (July).

1904 AVERAGE 46–81

Amalgamated ranged from 43 (Feb.) to 83 (Dec.); Copper Range 38 (Feb.) to 75 (Nov.);

Granby 25 (Mch.) to 58 (Nov.); Mohawk 34 (Feb.) to 58 (Nov.); Osceola 53 (Feb.) to 98 (Nov.); Quincy 80 (Feb.) to 125 (Nov.); Utah Cons. 30 (Jan.) to 47 (Nov.); Wolverine 68 (Jan.) to 110 (Nov.).

1905 AVERAGE 64–98

Amalgamated ranged from 70 (Jan.) to 112 (Dec.); Copper Range 64 (Jan.) to 85 (Dec.); Granby 50 (Jan.) to 105 (Dec.); North Butte 34 (Aug.) to 93 (Dec.); Mohawk 48 (May) to 65 (Dec.); Osceola 88 (Feb.) to 115 (Oct.); Quincy 95 (May) to 118 (Jan.); Utah Cons. 39 (Mch.) to 59 (Nov.); Wolverine 105 (Jan.) to 135 (Dec.).

1906 AVERAGE 73–127

Amalgamated ranged from 118 (Feb.) to 92 (July); Copper Range 87 (Jan.) to 67 (July); Granby 80 (July) to 152 (Oct.); North Butte 75 (Mch.) to 118 (Oct.); Calumet & Arizona 107 to 185; Mohawk 55 (Mch.) to 85 (Dec.); Osceola 93 (Mch.) to 151 (Dec.); Quincy 114 (Jan.) to 80 (July); Utah Cons. 70 (Jan.) to 52 (June); Wolverine 131 (Jan.) to 190 (Dec.).

1907 AVERAGE 56–140

Amalgamated ranged from 122 (Jan.) to 42 (Oct.); Copper Range 105 (Jan.) to 44 (Oct.); Granby 152 (Feb.) to 60 (Oct.); North Butte 120 (Jan.) to 30 (Oct.); Calumet & Arizona 198 (Feb.) to 89 (Oct.); Mohawk 96 (Jan.) to 37 (Oct.); Osceola 181 (Feb.) to 71 (Oct.); Quincy 148 (Feb.) to 70 (Oct.); Utah Cons. 79 (Jan.) to 25 (Oct.); Wolverine 198 (Jan.) to 93 (Oct.).

1908 AVERAGE 66–101

Amalgamated ranged from 45 (Feb.) to 88 (Nov.); Copper Range 55 (Feb.) to 84 (Nov.); Granby 80 (Jan.) to 110 (July); North Butte 41 (Feb.) to 90 (Nov.); Calumet & Arizona 93 (Feb.) to 103 (Aug.); Mohawk 45 (Feb.) to 73 (Nov.); Osceola 77 (Feb.) to 135 (Dec.); Quincy 77 (Feb.) to 100 (Aug.); Utah Cons. 29 (Jan.) to 50 (Aug.); Wolverine 115 (Jan.) to 155 (Nov.).

1909 AVERAGE 80–104

Amalgamated ranged from 65 (Feb.) to 96 (Nov.); Copper Range 68 (Feb.) to 87 (Nov.); Granby 110 (Jan.) to 90 (Feb.); North Butte 85 (Jan.) to 47 (Dec.); Calumet & Arizona 119 (Jan.) to 96 (May); Mohawk 70 (Jan.) to 57 (July); Osceola 122 (Feb.) to 170 (Dec.); Quincy 99 (Jan.) to 83 (Dec.); Utah Cons. 37 (Feb.) to 50 (Nov.); Wolverine 139 (Mch.) to 158 (Aug.).

1910 AVERAGE 53–97

Amalgamated ranged from 90 (Jan.) to 55 (July); Copper Range 85 (Jan.) to 58 (Feb.); Granby 111 (Jan.) to 20 (July); North Butte 50 (Jan.) to 18 (June); Calumet & Arizona 103 (Jan.) to 45 (July); Mohawk 75 (Jan.) to 43 (July); Osceola 166 (Jan.) to 114 (July); Quincy 92 (Mch.) to 66 (July); Utah Cons. 46 (Jan.) to 12 (Dec.); Wolverine 150 (Jan.) to 102 (July).

1911 AVERAGE 44–68

Amalgamated ranged from 72 (June) to 45 (Sept.); Copper Range 70 (Feb.) to 47 (Sept.); Granby 44 (June) to 26 (Aug.); No. Butte 36

(June) to 20 (Sept.); Calumet & Arizona 45 (Sept.) to 64 (Dec.); Mohawk 36 (Apr.) to 57 (Dec.); Osceola 124 (Jan.) to 81 (Sept.); Quincy 55 (Sept.) to 76 (Dec.); Utah Cons. 10 (Jan.) to 20 (June); Wolverine 122 (Feb.) to 74 (Nov.).

1912 AVERAGE 56–73

Amalgamated ranged from 60 (Feb.) to 92 (Oct.); Copper Range 66 (Apr.) to 48 (Dec.); Granby 33 (Feb.) to 77 (Nov.); No. Butte 22 (Feb.) to 39 (Oct.); Calumet & Arizona 57 (Feb.) to 83 (Aug.); Mohawk 50 (Jan.) to 73 (June); Osceola 130 (June) to 100 (Dec.); Quincy 95 (June) to 72 (Dec.); Utah Cons. 20 (Apr.) to 9 (July); Wolverine 117 (Apr.) to 65 (Dec.).

FINAL WORD TO READERS

It occurs to the author that this book may possibly be the means of causing some persons who will not give the proper study to statistics and general conditions, to invest in stocks. I therefore advise every reader that, if he is unwilling to invest about one hundred dollars a year in collecting and tabulating the necessary statistical data, it is better to buy no stocks whatsoever, but to confine all investments strictly to high grade bonds such as are recommended by conservative bond dealers.

One other thing, — whether buying stocks or bonds, the investor should not be in a hurry to make money too fast. The principal invested should grow slowly and naturally. One should be willing to creep before walking and be willing to walk before running, remembering that there are many years in which to accomplish the desired object and that success depends very largely upon progressing slowly and carefully, especially during the first few years.

"No sir, ye can bet it ain't th' people that have no money that causes panics. Panics are th' result iv too manny people havin' money. Th' top iv good times is hard times an' th' bottom iv hard times is good times. Whin I see wan man with a shovel on his shouldher dodgin' eight thousand autymobills I begin to think 'tis time to put me money in me boot.

"Don't git excited about it, Hinnessy, me boy. Cher up. 'Twill be all right tomorrow, or th' next day, or sometime. 'Tis wan good thing about this here wurruld, that nawthan lasts long enough to hurt. I have been through manny a panic. I cud handle wan as well as Morgan. Panics cause thimsilves an' take care of thimsilves."

Dooley.

GENERAL INDEX

Action equals reaction, 103.

Annual events, of 1860, 125; of 1861, 126; of 1862, 127; of 1863, 127; of 1864, 128; of 1865, 129; of 1866, 130; of 1867, 131; of 1868, 131; of 1869, 132; of 1870, 134; of 1871, 134; of 1872, 135; of 1873, 136; of 1874, 139; of 1875, 139; of 1876, 140; of 1877, 142; of 1878, 143; of 1879, 144; of 1880, 145; of 1881, 146; of 1882, 147; of 1883, 149; of 1884, 150; of 1885, 151; of 1886, 152; of 1887, 153; of 1888, 154; of 1889, 155; of 1890, 156; of 1891, 157; of 1892, 159; of 1893, 160; of 1894, 161; of 1895, 162; of 1896, 163; of 1897, 165; of 1898, 166; of 1899, 167; of 1900, 168; of 1901, 169; of 1902, 170; of 1903, 172; of 1904, 173; of 1905, 175; of 1906, 176; of 1907, 177; of 1908, 178; of 1909, 180; of 1910, 181; of 1911, 183; of 1912, 185.

Babson's Business Barometers, 420.

Balance of trade, 296; general rules concerning, 298.

Banks; cash in, 254; Comptroller's Reports, 243; deposits of, 260; economic laws concerning, 246–7, 254; functions of, 99; investments of, 245, 246; loans of, 243; notes of, 245; resources of, 246; statement of New York banks, 260, 262, 264, 266; table of loans and resources, opp. 247.

Bank clearings, 207; as a barometer, 19, 111, 208; of New York, 214; general rules concerning, 217; table of, 211.

Baring failure, 157.

"Black Friday" panic, 132.

Bonds; possibility of profits from, 59; tables of panic prices in 1884, 60; in 1893, 61; in 1903, 62; in 1907, 64, 65; tables showing effect of reorganizations on prices, of 1st class, 70, of 2nd class, 71, of 3rd class, 71, of 4th class, 72, of miscellaneous, 73.

Building statistics, as a barometer, 200, 203; general rules concerning, 206–207.

Business failures, 218; as a barometer of business conditions, 20, 111, 218, 221; tables of, 218, 220, 222; general rules concerning, 227.

Capital, 198.

Cash in banks, 254; historic survey of, 257; ratio to deposits, 254; table of, 255; general rules concerning, 259.

Certificates of Clearing Houses, 277; table of, 278.

Clearing Houses, functions of, 207; certificates of, 277; in New York, 208; table of certificates issued, 278.

Commercial Paper Offerings, 432.

Commodity prices, 328; as a barometer, 21, 112; in crises, 328; chart of since 1860, opp. 80; affected by gold production, 320; indexes of, 334; interest of to bankers, 97; problem in, 82; rules concerning, 337; tables of since 1860, 84; tendencies affecting, 332.

Comparative statistics, value of, 13, 25.

Composite chart, U. S., 103, 420; method of plotting, 113, 115 (foot note); subjects involved in, 114; X-Y line, discussion of, 115; of foreign countries, 427.
Comptroller's reports, 243.
Copper, 391; table of maximum dividends of fifteen companies, 395; table of daily average production of leading mines, 401; table of profits per share of leading stocks, 402; range in price of Lake Copper since 1860, 403; range in price of leading stocks since 1889, 404.
Crops, 350; as a barometer, 22, 113; government board on, 358; government reports on, 350; nature of monthly reports on, 354; general rules concerning, 364.
Cycles, controlling law of, 103; foretold by fundamental statistics, 17; rules concerning, 106, 196; length of, 102; periods of, 15, 24, 102.
Deposits of banks, 260; general rules concerning, 270.
Exports of merchandise, 292; benefit from increase in exports of manufactured goods, 293; general rules concerning, 295.
Failures in business, 218; as a barometer, 20, 111, 218, 221; tables of, 218, 220, 222; general rules concerning, 227.
Fire losses, as a barometer, 201.
Foreign countries, composite plots of, 427.
Foreign exchange, 312.
Foreign money rates, 312; general rules concerning, 319.
Foreign trade, 284; as a barometer, 21, 112; balance of, 296; exports, 292; imports, 284; table of, 285; volume of, 296.
Fundamental statistics, 15, 17; list of twenty-five subjects under, 18, 111; three general heads under, 113; composite chart of, 103; mechanical work of collecting, 110; methods of handling, 114, 115 (foot note), 117; need of studying many subjects in connection with, 104; theory of, 25; value to merchants, 80.
General heads under fundamental statistics, twelve, 18, 111; three, 113; arrangement of the twelve, under the three, 114.
Gold, movements of, 299; as a barometer, 21, 112, production of, 320; relation of production to prices, 320; general rules concerning, 327.
Idle car figures, 372; general rules concerning, 374.
Immigration, 228; as a barometer of labor conditions, 20, 111, 231; general rules concerning, 234.
Imports of merchandise, 284; dangers accompanying increase in, 287; general rules concerning, 291; table of, 285.
Industrial cycles, foretold by fundamental statistics, 17; the law maintaining in the past, 16; controlling law of, 103; length of, 102; periods in, 15, 24, 102; rules of periods in, 106, 196.

Investment conditions, subjects related to; crops, 350; foreign money rates, 312; idle car figures, 372; new securities, 346; political factors, 375; railroad earnings, 366; social conditions, 381; stock exchange transactions, 343.
Investments of the banks, 245.
Labor conditions, indexed by immigration figures as a barometer, 20, 111; lack of satisfactory figures on, 229, 230.
Loans of banks, 243; historic survey of, 247; relation to resources, 246; general rules concerning, 253; table of, opp. 247.
Maps: mercantile, 422.
Mercantile conditions, subjects related to; bank clearings, 207; business failures, 218; immigration 228; new building, 198.
Miscellaneous statistics, list of headings for, 389.
Monetary conditions, subjects related to; balance of trade, 296; cash of banks, 254; Comptroller's report, 243; deposits of banks, 260; exports, 292; gold movements, 299; loans of banks, 243; money, 235; surplus reserves, 271, 272, 274; volume of trade, 296.
Money, 235; as a barometer, 20, 108, 111, 122; chart of, during four great panics, opp. 258; gross and net supply of, 237, 238, 241; effect on merchants of the supply, 240; prices and the supply of, 271; general rules concerning, 242; foreign rates of, 312.
New railroad construction, as a barometer, 19, 111, 203; in the panic of 1837, 203; in the panic of 1857, 204; general rules concerning, 206.
New securities listed, economic laws affecting, 346; general rules concerning, 349.
Panics: of 1837, 203; of 1857, opp. 122, 203; of 1865, 129; of 1869, 132; of 1873, 136; opp. 122, 204, 279; of 1884, 150, 280; of 1890, 156, 281; of 1893, opp. 122, 160, 282; of 1903, 172, 223; of 1907, opp. 122, 177, 206, 317; of "Black Friday," 132; of "Undigested Securities," 172; a cause, 279; chart of money course during four panics, opp. 258; chart of stock market during four panics, opp. 282; derived from unbridled prosperity, 120, 384; foretold by "loans to resources," 248; movements of, 255; relation of "money in circulation" to, 239, 241; tables of bond prices, in 1884, 60; in 1893, 61; in 1903, 62; in 1907, 64; table of four major panics with accompanying events, opp. 122.
Periods of a cycle, 15, 24, 102, 108; rules of, 106, 196; foretold by fundamental statistics, 17.
Political factors, 375; as a barometer, 24, 113; list of, 376; general rules concerning, 380.

Quotations on the stock exchange, 340; affected by "transactions," 343; general rules concerning, 345.

Railroad earnings, 366; as a barometer, 23, 113; as affected in three depressions, 368; general rules concerning, 371.

Real estate as a barometer, 198, 202.

Reorganizations, 66; tables of bond and stock prices as affected by, 68–73.

Resources of banks, 246; relation to loans, 246; table of, opp. 246.

Social conditions, 381; as a barometer, 113; general rules concerning, 388.

Stock exchange, quotations, 340; list of ten conservative stocks, 341; the "*Wall St. Journal's*" list of thirty-two stocks, 341; list of ten bonds, 342; transactions, 343; new securities, 346.

Stock prices, as a barometer, 22, 112; chart of prices since 1874, opp. p. 30; possibilities of profits from stocks, 50; problems in profits, 50, 53, 57; quotations, 340; table with annual high and low prices of leading stocks since 1860, 33; table of prices of ten stocks in 1907 and 1910, 31; table showing effect of reorganization on prices, 68, 73.

Subjects treated under fundamental statistics, twenty-five, 18, 111.

Surplus reserves, 255, 271, 274; general rules concerning, 275.

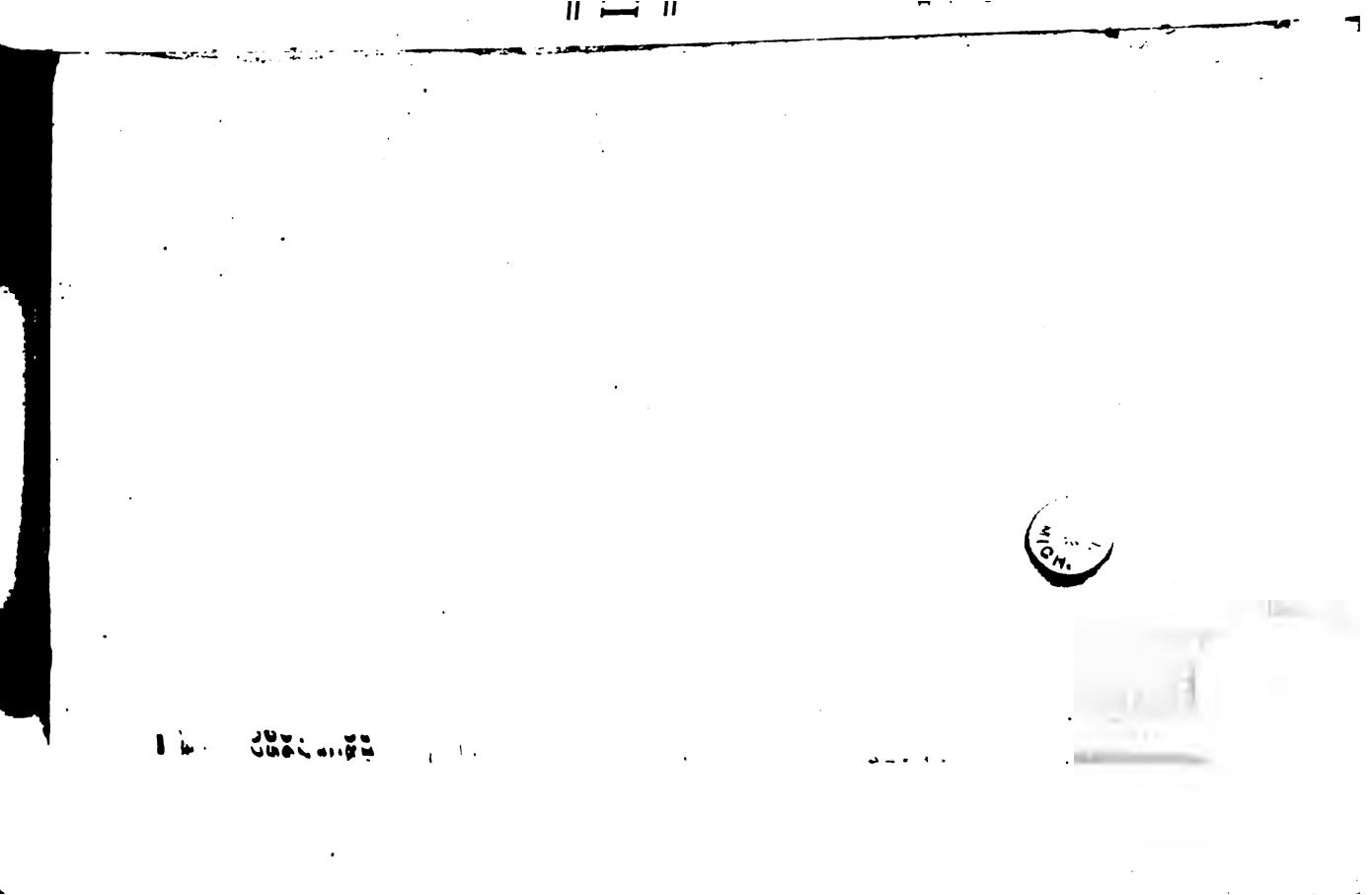
Transactions on the stock exchange, 343; general rules concerning, 345.

"Undigested Securities" panic, 172.

Volume of trade, 296.

Wealth, as a barometer, 198, table of, 199.

X-Y line: discussion of, 115.



IMPORTANT ADDENDA

NOTICE

In order to avoid the necessity of continually revising this entire book and yet give its readers the latest important figures obtainable, one of the desk sheets of Tables (such as we send weekly to subscribers) is always inserted here when the book is mailed.

Readers, however, should remember that this sheet is only a small part of the work which we supply to our subscribers, and, moreover, this sheet is completely revised for them each week.

BABSON'S REPORTS

on

"Fundamental Conditions"

A Special Service to furnish Merchants, Manufacturers, Investors and Bankers up-to-date figures on the subjects mentioned in this book.

(To avoid any misunderstanding we beg leave to state that this work did not originate with us, but was inaugurated years ago by some of the leading banking and mercantile firms of this country. The expense incurred through performing the work independently was so great that the smaller banks and business houses hesitated to assume the burden individually. We therefore took up the work in the common interests of all concerned, and divide the cost among the firms and individuals who subscribe and share the resulting advantages.)

A. Monthly Desk Sheet

This needs no description, since an exact, full-size reproduction will be found pasted into this book opposite page 419. It should be especially noted that each issue of this Desk Sheet contains not only the latest figures, but previous figures as well, thus obviating the necessity of posting, filing, or any clerical work whatsoever. The old sheet is simply destroyed upon receipt of the new, which is merely laid on a desk or table under the plate glass furnished for that purpose.

The Desk Sheet is the foundation of our service and contains impartial, reliable, and up-to-date figures on the subjects discussed at length in this book as the chief barometers of business. In order that the trend of these figures may at any time

be detected at a glance, we have added graphic plots of same in red ink. It is believed that this combination of statistics and charts on the Desk Sheet laid before the client each month is of the utmost value, presenting, as it does, every factor in the current fundamental situation.

B. Weekly Barometer Letter and Composite Plot

The service represented by the Desk Sheet proved of such practical value to clients, that we were asked to prepare a further feature; namely, an analytical study and report upon said figures, giving the interpretations and conclusions derived therefrom. This work took the form of a Weekly Barometer Letter. The letter is in no way designed to replace original thought on the part of clients, and should not be regarded as in any sense a "market letter"; it is rather in the nature of an engineering report, prepared solely in the interests of the client and affording him a helpful check and comparison when determining what course of action and policy is most profitable.

In conjunction with the Barometer Letter we publish weekly a Composite Plot identical in construction with that shown opposite page 102 of this book and fully explained in the accompanying chapter. This Plot we believe to be the most accurate measure of business conditions that can be obtained. It gives a bird's-eye summary of the past, an exact record of the present, and the clearest possible indication of the future. The Plot, on which

are the charts of money rates, stocks, and bonds, is issued complete to date each week and requires no posting. Mention should also be made of the monthly summaries and the special letters on topics of importance, which are a regular part of this feature of the service.

The above features are common to all our services, but in addition we include a further option, dependent upon the particular interests of our clients. Our clientele is composed of four groups:

1. Merchants, manufacturers, and others engaged in industrial, commercial, and mercantile lines, including corporation directors.
2. Individual investors, trustees, treasurers of endowed institutions, insurance companies, and other enterprises — apart from banks — in which investment has a leading part.
3. Bankers and directors of banks.
4. Those interested in the work in general; statistical departments, universities, economists.

Corresponding to the above divisions, we offer the following options:

1. The Mercantile Map — for the Business Man

This Map is issued every two weeks alternately for the Credit Department and for the Sales and Advertising Department. Reports cover the entire United States; and so far as possible the informa-

tion is given graphically in order to suggest general tendencies as well as particular facts. Colored areas indicate where business is best and where exceptional opportunities may be found for selling and advertising; where conditions are least favorable and where credits should be watched and collections pushed; where conditions are about midway between the above extremes. Other symbols, such as circles and crosses, indicate the condition of the important cities and localities. On the back of the Map each of the leading cities is reported with respect to decline or increase of business compared with the corresponding period last year.

We also submit regular reports on leading commodities, such as pig iron, copper, cotton, etc., stating whether fundamental conditions indicate that clients should stock up heavily in anticipation of an upward trend of prices, or buy from hand to mouth in anticipation of lower prices. These reports also outline the general situation from a strictly business point of view, bring attention to important news items that have been suppressed, and suggest plans for increasing sales and conserving profits.

2. The Investment Sheet—for the Investor

This report is submitted every two weeks and represents most careful work on the part of our entire organization. A review is given of the present situation from the standpoint of the investor, without bias or prejudice. This feature of the report is prepared by a staff composed of disinterested

security experts, who, moreover, devote their services exclusively to this organization.

Although we believe the ideal investment plan and policy to be that outlined at length in the pages of this book, we recognize the fact that all investors do not have the patience to wait for panics and panic prices, but desire to buy some securities more frequently. We therefore study practically all the high-grade stocks and bonds, and select so far as possible those securities which for the time being are selling below their real value. These offerings are usually known to us through the personal work of our own engineers who have made a thorough investigation of the property.

The real value of this Investment Sheet is found in the fact that it is prepared solely and exclusively from the standpoint of the investor. We neither buy nor sell securities, in any way, shape, or manner, nor have we any connections whatsoever, direct or indirect, which influence our judgment. Clients thus secure for themselves strictly professional work of the highest character, which if paid for individually would be beyond the means of any but the most wealthy.

3. The Commercial Paper Sheet — for the Banker

Briefly, this is a selected list of outside offerings which have been checked by our own credit department and also passed upon by credit men of leading city institutions; moreover, the names are those offered by reputable dealers. We recommend this

list to bankers who believe a portfolio is sounder if not filled exclusively with local paper.

This sheet is the outgrowth and extension of a plan which was originally inaugurated by Massachusetts bankers who aimed to secure a composite credit opinion on commercial paper offerings. It was found that our organization was equipped to carry on the work most efficiently. This we have done by developing the plan on a somewhat more elaborate scale than was at first contemplated. We shall be glad to explain further details of this and other features of technical interest to bankers, notably the work we are doing in connection with defaulted bond issues.

4. The Book of Charts—for Statisticians and Economists

Many of our clients wish to keep in touch with fundamental conditions from the broadest point of view; and in place of any of the above special reports, they prefer the book of charts, which presents the industrial, commercial, and financial history of our country from an early period to the current date. The facts are set forth both by statistics and graphic plots. Other valuable summaries and reports are also included, the whole being conveniently indexed and bound in an excellent loose-leaf leather binder, which permits of keeping all material up to date.

To summarize the foregoing and give a clear understanding of what each class of clients receives, the following outline may be of service:

1. *Mercantile Service*

   Monthly Desk Sheet.
   Weekly Barometer Letter and Composite Plot.
   Fortnightly mercantile Maps (Credit Map and Sales and Advertising Map.)

2. *Investment Service*

   Monthly Desk Sheet.
   Weekly Barometer Letter and Composite Plot.
   Fortnightly Investment List.
   Book of Charts.

3. *Banking Service*

   Monthly Desk Sheet.
   Weekly Barometer Letter and Composite Plot.
   Weekly Commercial Paper List.

4. *General Service.*

   Monthly Desk Sheet, with supplemental sheets at frequent intervals for temporary use.
   Weekly Barometer Letter and Composite Plot.
   Book of Charts.

The cost of any one of the four services outlined above (including the original installation of books, binders, plate-glass, etc.) amounts to but $90.00 per year. In the case of bankers who desire to receive the fortnightly Investment Sheet in addition to the regular banking service, the total cost is $105.00 per year. For further details, write to

BABSON'S STATISTICAL ORGANIZATION
(Incorporated)
WELLESLEY HILLS STATION BOSTON, MASS.
(Largest Organization of its class in the United States)

NOTE. As this edition of Business Barometers goes to press, we have the pleasure of announcing that our work on foreign conditions is nearing completion and that we shall soon be able to supply clients, not only with composite plots for England, France, Germany, and Canada, similar in construction to our well-known Composite Plot of the United States, but also with a Business Map of The World, similar to our Business Map of the United States. These features have been especially desired by concerns doing an export business or maintaining foreign branches or agencies; but equal weight is given to foreign conditions by all who realize the increasing influence which such factors are exerting on domestic affairs. Further details will gladly be furnished on request.

SUCCESS COMES

not by *forecasting*, but rather by *doing* the right thing at the right time and always being willing to change one's course. For this reason much more money is made by directing one's business and investments with a purpose of *preventing* panics than by trying to *forecast* panics and then pursuing a policy based upon the belief that said forecast must prove true. With this object in view, I offer the services of my large organization that merchants, bankers and investors may always be best prepared for whatever the future is most likely to bring forth.

ROGER W. BABSON.

ADVERTISEMENTS

FUNDAMENTAL STATISTICS

KNOWN AS

BABSON'S REPORTS

RELATIVE TO THE UNDERLYING

Monetary, Mercantile and Investment Conditions

We are collecting, analyzing and distributing statistics on the subjects mentioned in this book and are prepared to supply the results to Stock Exchange Firms, Bond Houses, Banks, Mercantile Houses, Manufacturers and Investors.

By a study of the data which we supply, one can readily ascertain for himself whether we are in a Period of Prosperity, a Period of Depression, or are passing from one to the other; and what will be the next major change in trade, money rates and investment prices.

The cost of this service is very small in comparison with what it is costing firms to collect such data independently, and we believe that our figures are more accurate and more up to date than if collected by clients independently. Further particulars relative to this work will be sent gratis on application. Address

BABSON'S STATISTICAL ORGANIZATION

(Incorporated)

WELLESLEY HILLS, MASSACHUSETTS

ESPECIAL ATTENTION

IS CALLED TO THE

Instruction Courses

ON

Investments & Collateral

FOR INVESTORS,
EMPLOYEES OF BOND HOUSES,
STOCK EXCHANGE FIRMS,
AND BANKS

Booklet BB describing this work in detail will be mailed gratis upon request

Address

Investment Bankers Bureau, Inc.

Wellesley Hills, Massachusetts

Babson's Composite Circulars

of

Bond & Stock Offerings

A confidential service for dealers only
which shows the market on
all unlisted securities

For full details write
for Booklet B which
will be sent on request

Investment Bankers Bureau, Inc.
Wellesley Hills, Massachusetts

OFFICIAL SERVICE

INVESTORS, have you access to all the information on, and the time to keep abreast of, those issues which interest you?

¶ The remoteness of this possibility has set a whole corps of men at work in an immense financial library. They spend all their hours corraling facts and shaping them into concise, usable form.

¶ Their product is an Investors' Card Service covering thoroughly forty railroads, industrial and utility stocks of greatest interest. This work is furnished in a desk cabinet and kept revised to the hour.

¶ With this work your investments may be made and followed unbridled by obligation.

Why not write for a specimen of the work taken from this service—an issue you are particularly interested in—if only to keep pace with the latest success in financial literature for investors?

OFFICIAL INFORMATION BUREAU

(Incorporated)

24 STONE STREET, NEW YORK

WILLIS D. PORTER, *President*